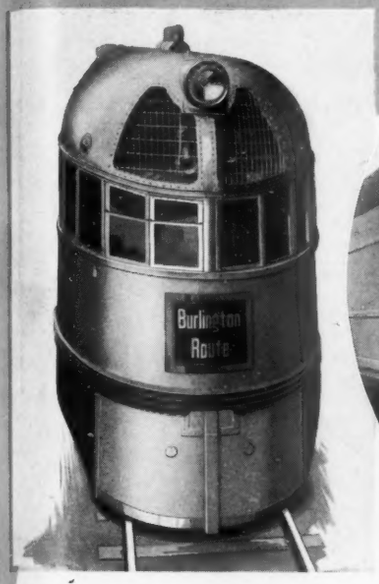
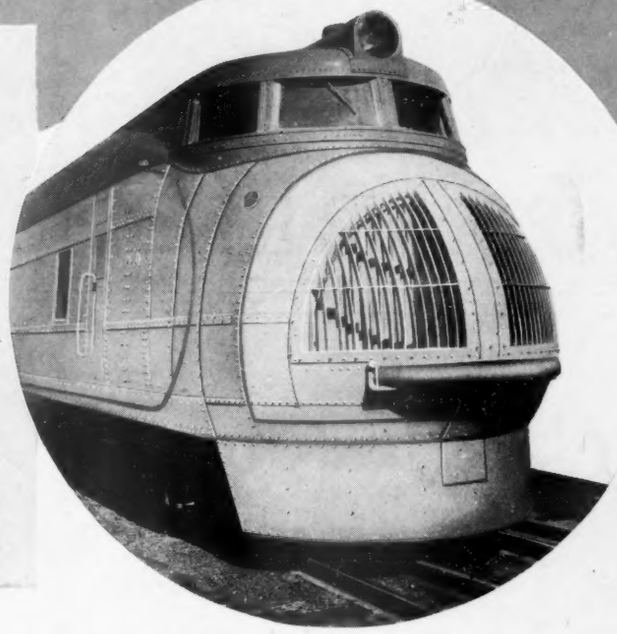
APR 30 1935
TRANSPORTATION LIBRARY

APRIL 27, 1935

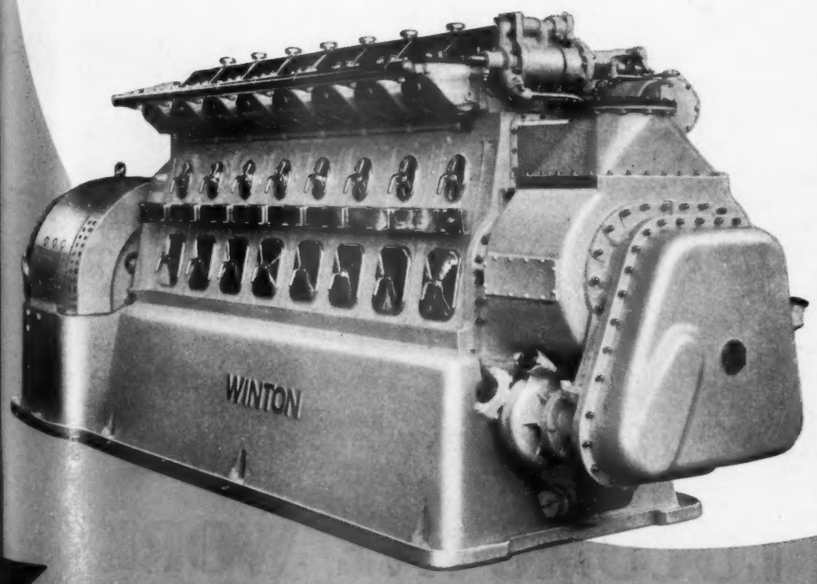
Railway Age

FOUNDED IN 1856





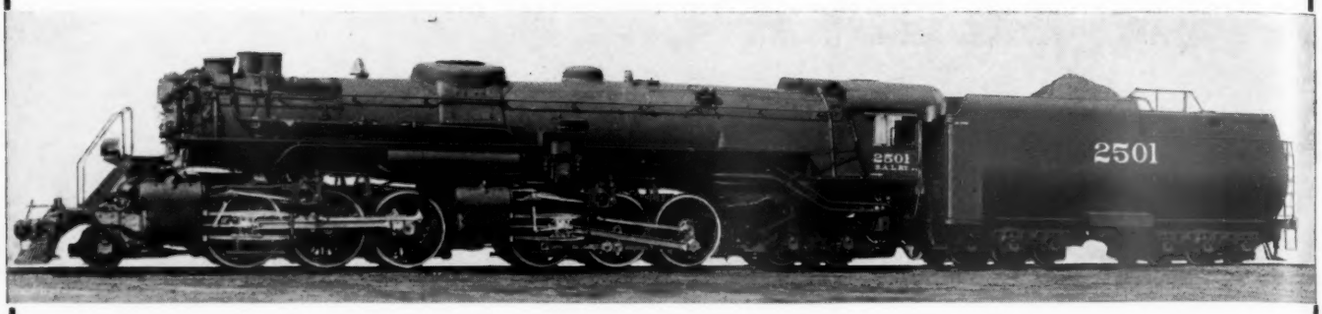
RESTORING PASSENGER TRAFFIC TO THE RAILROADS



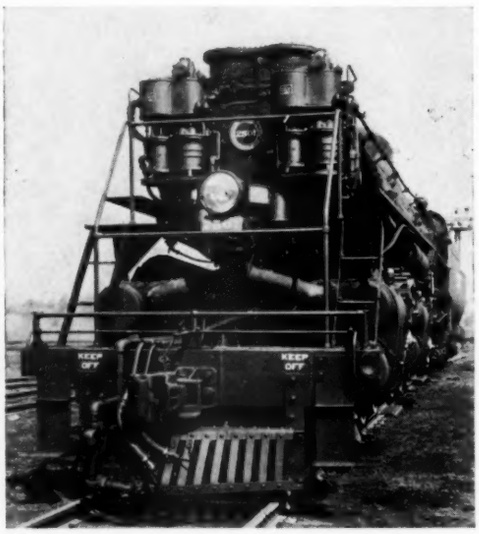
Stream-lined, high-speed passenger trains, powered with Winton-Diesel engines, have had "standing room only" on practically every trip. The public reaction indicates that there is a demand for fast, frequent, comfortable service between commercial centers. This demand, plus the reduced operating cost effected by Diesel power, insures a much broader application of this type of equipment to modern railroad requirements.

ELECTRO MOTIVE CORPORATION
CLEVELAND, OHIO, U. S. A.

ARTICULATED LOCOMOTIVES



SEABOARD AIR LINE



General Specifications
Cylinders (4) 22″ x 30″
Steam pressure 230 lb.
Drivers diam. 69″
Weight on drivers 330,000 lb.
Weight, total engine 480,000 lb.
Weight, engine and tender 781,300 lb.
Tractive force 82,300 lb.

Baldwin is now completing an order for five of these single-expansion articulated locomotives for the Seaboard Air Line Railway.

They are already being placed in fast freight service on the 254 mile run between Richmond and Raleigh on the Virginia-Carolina division.

At the speeds required today, these locomotives are capable of hauling about 50 per cent more tonnage than the locomotives they are replacing in this service.

It takes Modern Locomotives to make money these days!

THE BALDWIN LOCOMOTIVE WORKS
PHILADELPHIA, PENNA.

Published weekly by Simmons-Boardman Publishing Company, 1309 Noble Street, Philadelphia, Pa. Entered as second class matter, January 4, 1933, at the Post Office at Philadelphia, Pa., under the Act of March 3, 1879.

Published every Saturday by the Simmons-Boardman Publishing Company, 1309 Noble Street, Philadelphia, Pa., with editorial and executive offices: 30 Church Street, New York, N. Y., and 105 West Adams Street, Chicago, Ill.

SAMUEL O. DUNN, *Chairman of Board*
HENRY LEE, *President*
LUCIUS B. SHERMAN, *Vice-Pres.*
CECIL R. MILLS, *Vice-Pres.*
ROY V. WRIGHT, *Vice-Pres. and Sec.*
FREDERICK H. THOMPSON, *Vice-Pres.*
GEORGE SLATE, *Vice-Pres.*
ELMER T. HOWSON, *Vice-Pres.*
F. C. KOCH, *Vice-Pres.*
JOHN T. DEMOTT, *Treas.*

CLEVELAND
Terminal Tower

WASHINGTON
832 National Press Building

SAN FRANCISCO
55 New Montgomery St.

Editorial Staff
SAMUEL O. DUNN, *Editor*
ROY V. WRIGHT, *Managing Editor*
ELMER T. HOWSON, *Western Editor*
H. F. LANE, *Washington Editor*

B. B. ADAMS
C. B. PECK
W. S. LACHER
ALFRED G. OEHLER
F. W. KRAEGER
E. L. WOODWARD
J. G. LYNE
J. H. DUNN
D. A. STEEL
R. A. DOSTER
H. C. WILCOX
NEAL D. HOWARD
CHARLES LAYNG
GEORGE E. BOYD
WALTER J. TAFT
M. H. DICK

The Railway Age is a member of the Associated Business Papers (A. B. P.) and of the Audit Bureau of Circulations (A. B. C.).

Subscriptions, including 52 regular weekly issues, payable in advance and postage free: United States and possessions, 1 year $6.00, 2 years $10.00; Canada, including duty, 1 year $8.00, 2 years $14.00; foreign countries, 1 year $8.00, 2 years $14.00.

Single copies, 25 cents each.

Railway Age

With which are incorporated the Railway Review, the Railroad Gazette and the Railway Age-Gazette. Name registered U. S. Patent Office.

Vol. 98 April 27, 1935 No. 17

In This Issue

The New Haven's "Comet" ..... Page 632

A complete description of this new articulated, three-car, high-speed, streamlined train which, after a series of exhibition runs, will be placed in service between Boston, Mass., and Providence, R. I.

The Highway Grade Crossing—A National Problem 643

Robert H. Ford, assistant chief engineer, Chicago, Rock Island & Pacific, Chicago, holds that changing character of use and demand for economy in expenditure point to necessity for new approach to this question.

Experience Justifies Pennsylvania's Faith in Storedoor Service 653

A Motor Transport Section article telling how shippers have welcomed this road's plan, which extends railroad responsibility over the complete transport job.

EDITORIALS

Straight Thinking Needed on Railroad Problems 629
Shortsighted Bondholders 631

GENERAL ARTICLES

The New Haven's "Comet" 632
An Outside Business View of Railroad Problems 641
The Highway Grade Crossing—A National Problem, by Robert H. Ford 643
Freight Car Loading 645
New Freight Cars Developed by the Baltimore & Ohio 646
Car Service Rules Are Not Static, by W. B. Kirkland 649
Atterbury Resigns; Clement Elected President of Pennsylvania 651

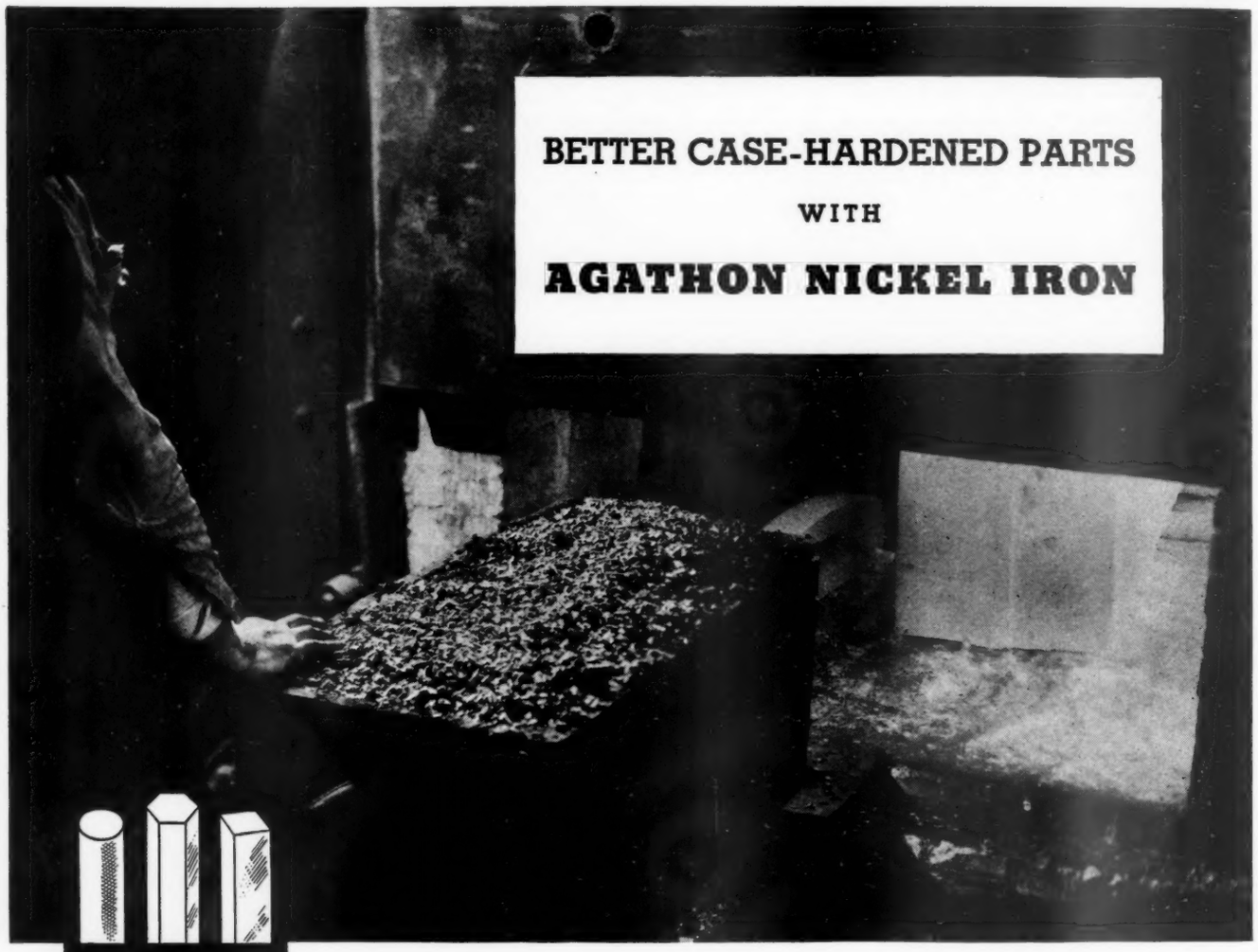
MOTOR TRANSPORT SECTION

Experience Justifies Pennsylvania's Faith in Storedoor Service 653
White to Build Low-Priced Indiana Trucks 654
L.C.L. Traffic Increased by S. P. Transport Company 655
Truck Traffic Analysis in Kansas 655
New Terminal for Pennsylvania Greyhound 656

COMMUNICATIONS 657

NEWS 658

The Railway Age is indexed by the Industrial Arts Index and also by the Engineering Index Service



REPUBLIC
BAR STEEL

Republic's full line of carbon bars is manufactured under the same skilful control and supervision that has made the name Republic outstanding in the field of fine alloys.

Only in Agathon Nickel Iron is the conflicting requirement of a hard surface and a tough core fully satisfied. » » » A hard case is worthless unless the core of a pin or bushing is sufficiently tough to withstand the shocks and stresses encountered in locomotive work. » » » Agathon Nickel Iron combines toughness of core with exceptional case-hardening qualities. » » » Agathon Nickel Iron is uniform all the way thru, with no slag seams lurking to spoil partly finished material. » » » Agathon Nickel Iron may be machined to size, polished, carburized and quenched from the pot without spoiling the surface for smoothness. » » » Try this modern alloy iron for all case-hardened pins and bushings.

Republic Steel

CORPORATION

CENTRAL ALLOY DIVISION, MASSILLON, OHIO

GENERAL OFFICES: YOUNGSTOWN, OHIO

RAILWAY AGE

Straight Thinking Needed on Railroad Problems

There needs to be some rapid and clear thinking done regarding the railroad situation. The bill before Congress to regulate motor carriers appears to have a fair chance of early enactment. What the fate of the waterway and fourth section measures will be is uncertain. And whether the bills reorganizing the Interstate Commerce Commission, making the office of co-ordinator of transportation permanent and providing dismissal wages, will be passed or seriously considered is entirely speculative. And, if these last measures do not succeed, will an effort be made to pass the Crosser bill, which extends the co-ordinator law—labor reduction restrictions included—for another year from June 15? That any of the "make work" measures sponsored by the railroad labor organizations and designed to squeeze more blood out of the utterly desiccated railroad turnip could become a law seems inconceivable, and yet . . .

The time for the railroads is a Walpurgis night, when "almost anything is rather more than likely to happen," which affords plenty of reasons for trying to see conditions as a whole; for endeavoring to select from the tangle of possibilities a line of action which will lead out of the maze. It is certain that narrowly selfish action by any group at interest will threaten the stability of the whole structure, with Senator Wheeler and his government ownership scheme ready to pounce upon the pieces.

The Record of Government Operation

Fortunately, in considering what would be the results of government ownership and operation of railways in this country, it is not necessary for its opponents to debate mere theories with its advocates. The railways were operated by the government throughout 1919, after the war was over. The results in that year were due to government policies, and the wide difference between them and the results under private operation in 1933, the worst and most difficult year in railroad history, make a record of facts which answer most questions that can be raised regarding the advantages and disadvantages of government and of private operation.

Senator Wheeler says that the present railroad financial results and conditions are "the real crux of the government ownership question." In 1919 gross earnings were $5,150,000,000, and in 1933 only $3,100,000,000, a decline due entirely to the depression, as is demonstrated by the fact that in each of the ten years 1920-1929, inclusive, gross earnings were larger than in 1919; and yet, after paying larger taxes, the railways actually had more net operating income in 1933 than in 1919. The reason was that in 1919 their operating expenses consumed 85½ per cent, and in 1933 less than 73 per cent, of their gross earnings, their operating expenses in 1933 being 49 per cent less than in 1919. The difference of $2,150,000,000 in annual operating expenses was not due to reduction of wages, the average hourly wage paid being 11 per cent higher in 1933 than in 1919. The tremendous reduction of operating expenses was due to improvements in plants and operating methods made during the ten years preceding the depression, and to terrific retrenchments made during the depression, as a result of which the amount of freight handled per employee-hour in 1933 was 56 per cent greater than in 1919.

What Would the Railroad Deficit Have Been?

If, in 1919 under government control, operating expenses had been only 73 per cent of gross earnings, as they were under private operation in 1933, net earnings in 1919 would have been $1,390,000,000, or $645,000,000 more than they were, and the government—in other words, the taxpayers—would not have had to pay the large deficit that resulted from government operation in 1919. On the other hand, if in 1933 operating expenses had been 85½ per cent of gross earnings, as they were under government operation in 1919, the net earnings of the railways in 1933 would have been about $400,000,000 less, or only about half of what they actually were.

If the railroads had not been under private operation during the depression, would their operating expenses have been reduced as much as they have been? Under government operation in 1919 their traffic *declined* 10 per cent but their operating expenses *increased* 10 per cent, or $400,000,000.

In view of the foregoing incontrovertible facts, it staggers the imagination to surmise how large would have been the railroad deficits the public would have had to pay if the railroads had been under government ownership and operation during the last five depression years. They probably would have made the total

deficits of the Federal government twice as huge as they actually have been. Those who can advocate government ownership, in view of this record, are incurable. Those who are disposed to conclude that it is "inevitable" may well, before they accept that conclusion, ponder carefully whether it would not be much better energetically to support all measures that will tend to prevent it.

Views of Kansas City Chamber of Commerce

A serious and intelligent effort to separate the wheat from the chaff in the pending proposals about the railroads has been made by the Transportation Committee of the Kansas City Chamber of Commerce, and appears in the form of a report approved by the board of directors. While we do not agree with all the conclusions reached, the Kansas City Chamber has done yeoman service by approaching the problem, not from the standpoint of immediate and local self-interest, but rather from that of the broad public interest. There has been all too little consideration of transportation from this standpoint, particularly by leaders of other business. A large part of the report appears in abstract on page 641, in this issue. We invite attention to it, because it is as interesting as it is unusual. Here are business men with immediate selfish interests to protect who have, nevertheless, thought through a whole complex economic situation outside their own businesses, and have reached conclusions which bear no traces of prejudices and preconceptions and no immediate relation to what they might have considered their immediate selfish interests.

The report does not favor "planned economy" in transportation and for that reason does not approve of continuing the office of co-ordinator. If there had been "planned economy" in transportation 20 years ago, the report says, the planners "doubtless would have recommended further extension of interurbans—and now the interurbans which have not been torn up or abandoned are in great financial difficulty." The continuance of the co-ordinator's function is also disapproved, however, because the Kansas City chamber has little liking for the terminal consolidation plans which Mr. Eastman's staff have prepared and which would have the effect of reducing competition and employment.

Co-ordinate or Go Broke—Which?

"Two drug stores exist on nearby corners," says the report, by way of analogy, "operated with equal efficiency, handling the same lines of goods, and each enterprise enjoys a patronage and furnishes a return to the owner and livelihoods for the employees. Theoretically there should be only one drug store, which would operate more cheaply than two, with perhaps a 25 per cent reduction in employment. . . . The same principles apply to the co-ordinator's scheme for a planned transportation economy, with its consolidations —which he speaks of as co-ordinations."

All of this is very true, but if each of two competing stores across the street from each other found their revenues reduced by a half over a considerable period and no longer sufficient to "furnish a return to the owners and livelihoods for the employees," ought they not to be allowed to merge—or should they be forced to keep at it separately until both of them were ruined? Planned economy handed down from on high is not needed by the railroads, but the opportunity to do a little planning among themselves—and merging of terminals and other facilities where the traffic does not warrant continuing separate plants—very definitely is needed. This is not possible with the labor restrictions of the co-ordinator law. Giving up the law altogether, and the co-ordinator's functions with it, would not be too great a price to pay to get away from restrictions which sacrifice the community interest to that of individuals who insist that once in a job they must be kept in it after the need for their services ceases.

Reducing Interest and Labor Costs

The Kansas City report concludes that the railroads must reduce their costs and that this "will have to be done through (a) revision of their capital structures to bring the value of their securities in line with the amount of business they can do and the revenues they can receive therefor, and (b) the railroads must be placed in a position where they can reduce their labor costs."

Failing a material upturn in traffic, those conclusions are inescapable, if government ownership is to be avoided. But one way of reducing labor costs is to increase efficiency, and, if this is done, and part of the saving is passed along to customers whose patronage is thereby increased, the reduction in labor cost can be coupled with more jobs and greater total compensation for labor. Concessions on the part of security holders of those roads the interest charges of which are so burdensome as to prevent proper maintenance and necessary improvements in service are definitely necessary—and the sooner they are made the better for all concerned, the security owners themselves included.

But can security owners fairly be asked to reduce interest rates, or sacrifice fixed for contingent obligations, when obvious operating economies would avoid the necessity? In every part of the country there are opportunities for co-operative action by two or more railroads which would substitute joint for separate facilities and effect savings—part of which could be used to protect the just claims of railroad creditors and part to reduce charges to patrons, inducing an increase in their traffic and providing more jobs for railroad men. Then there is the matter of pooling of all l.c.l. traffic in the hands of one or more agencies now being studied by the A.A.R.—which could not fail to save millions. Railroad management needs to be permitted, and encouraged, to effect co-operative economies on a scale not possible if the present labor provisions of the co-ordinator law are to be continued. Security owners must meet such efforts on the part of

railway managements half way, and be willing to accept something less than the pound of flesh to which they, strictly speaking, are entitled.

Profitable Employment for More Men the Goal

And what of railroad labor? The Kansas City report says: "More water cannot be pumped out of the well than runs in. The great trouble in the present situation is that for every man uneconomically employed, that is, whose services do not return his wages and a little more, pressure is exerted to dismiss someone else or cut expenses otherwise to make up the deficit. It likewise is true that for every man profitably employed, whose services are returning something more than his wages, the pressure is great to employ someone else to do some other needed job."

This is a good statement of plain facts. The incentive for the railroads to employ more men—which is the crying need of railway labor—will come when they are given full opportunity to shift men from unremunerative tasks and put them where they can earn their wages "and a little more." Not to wish to be transferred or have one's job changed is an understandable human desire, but it should not be permitted, as it is today because of the labor provisions of the Emergency Transportation Act, to stand in the way of increased employment, which would follow a revival of railway credit if the managements were given a freer hand in instituting economies. The proposed "make work" legislation of the railway labor organizations, the maintenance of the 1929 wage scale and mileage pay in train and engine service on the present basis of 100 miles as a day's work, are utterly contradictory to any plan for reviving the railway industry ahead of a major revival in traffic. The railroads—owners, creditors, labor, managements—apparently must quit waiting for general business recovery to pull them out of the hole, and turn their attention toward extricating themselves in spite of reduced traffic. It ought to be obvious that they will be far more likely to succeed in this effort if all interests work together than if each strives to climb by pushing the other deeper into the mire.

Private Industry or Socialism the Issue

It is evident also that the sacrifices that railroad men and railroad security owners will have to make to restore their industry to health will be reduced if Congress and the state legislatures enact legislation to equalize the conditions of competition in transportation imposed by government, and that therefore they should subordinate their immediate supposed selfish interests to support of such proposed legislation, especially the bills now before Congress for highway and waterway regulation and for modification of the long-and-short haul section of the Interstate Commerce Act. In these efforts in behalf of this legislation the railroads, the security-owners and employees should be given the support of all believers in the American system of private enterprise. For the failure of railway recovery may mean socialization of the railways. And railway socialization almost inevitably would bring socialization of other industry in its wake.

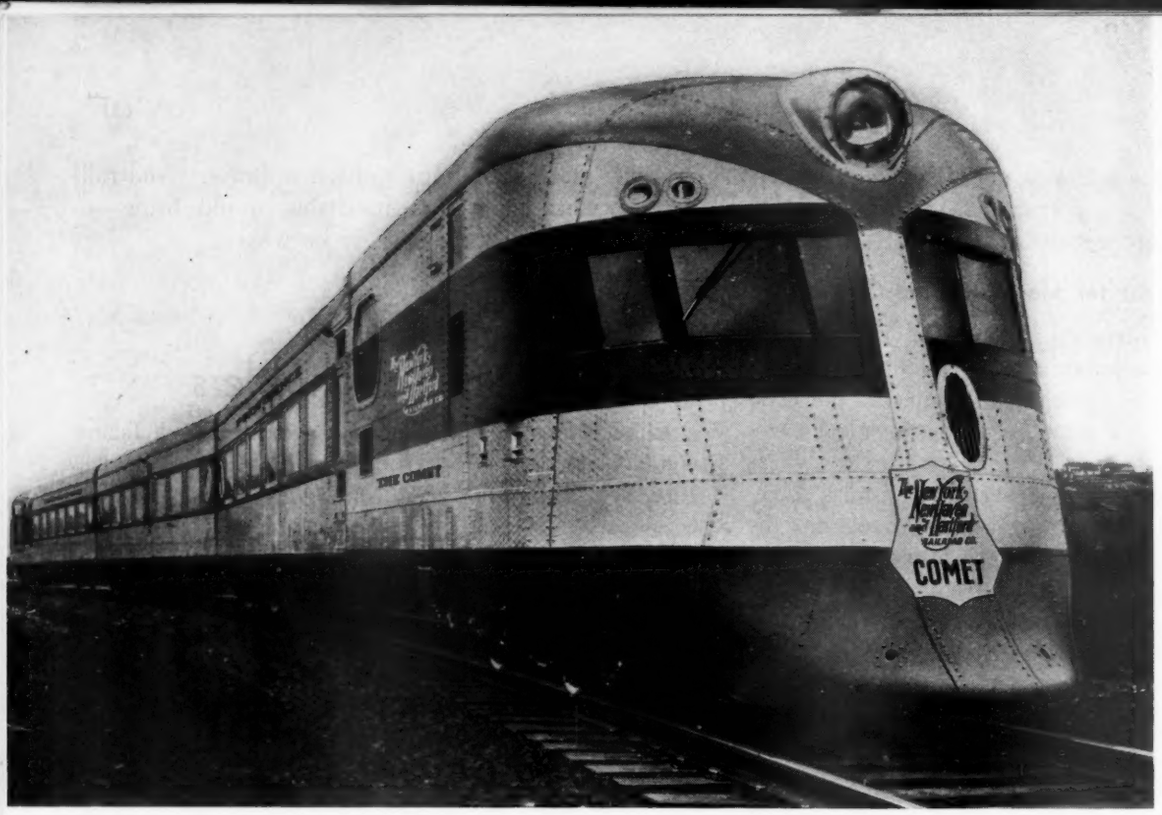
Shortsighted Bondholders

Elihu Root, Jr., representing a group of Rock Island bondholders, in a letter last week to the House Judiciary Committee in Washington, which is holding hearings on the Sumner bill to revise the bankruptcy act, opposed the clause in the bill which exempts equipment obligations from the provisions of the act. It would be difficult to conceive anything which would be more ruinous to the railway industry—and hence to the bondholders themselves—than for Congress to accept Mr. Root's advice.

The rehabilitation of the railroads and the restoration of their earning power depends largely on re-equipping them. Modern locomotives to handle existing traffic, and increases which will come, at lower costs, and new designs of light-weight trains to attract the public which does not now patronize the railways, are only two of the many kinds of equipment for which a need exists on the railways. Without in any way deprecating the very real economies made possible by other kinds of improvements, new motive power and rolling stock are a *sine qua non* of railroad recovery.

What purpose would be served by putting equipment obligations on a par with the general credit of the company using them, and thus effectually preventing equipment purchases by any railroads except those enjoying the best of credit? None, apparently, except the satisfaction of the ungenerous desire which misery has for company. When equipment is purchased with care, as is invariably the case in such times as these, the purchaser expects it to earn not only the full carrying and amortization charges on the equipment obligations, but a generous residue for the railroad's creditors or stockholders as well. The judicious purchase of economy-producing and traffic-building equipment may in some cases be the obvious way to build up earnings to a point where they will cover interest requirements. For bondholders, most of whom presumably are mature adults, to subordinate their own salvation to an ungenerous desire to see holders of equipment obligations in circumstances similar to their own is a sign of the times which is not very encouraging.

The clause (in Sec. 77 (j) of the Sumner bill, H.R. 6249) which preserves "the title of any owner, whether as trustee or otherwise, to rolling-stock equipment leased or conditionally sold to the debtor, and any right of such owner to take possession of such property in compliance with the provisions of any such lease or conditional sale contract" is fundamental. Everyone interested in the railroad industry and its future—be he employee, officer, stockholder, bondholder, shipper or equipment manufacturer—will be benefited if the clause is retained, and gravely injured if it is discarded.



Two Views of the New Haven "Comet"

The New Haven's "COMET"

Arrangement of Seats, Draperies, Luggage Racks and Grille

WITHIN the past week there has been delivered to the New York, New Haven & Hartford an articulated three-car, high-speed streamline train to be known as the "Comet" which, after a series of exhibition runs, will be placed in service early in June between Boston, Mass., and Providence, R. I. The Comet is the first American train built with Diesel power plants at both ends of the train. It was designed and built by the Goodyear-Zeppelin Corporation, Akron, Ohio, in collaboration with the New Haven.

Unlike its predecessors in the field of light-weight, high-speed streamline trains, the Comet was built for a special service—to furnish rapid, frequent transportation between two New England points a short distance apart, in a territory of dense traffic where turn-arounds were not possible. For this reason the double-end design was selected and all of the space in the train not used for power plants is arranged to accommodate only coach passengers on a journey involving less than an hour.

The Comet's tentative schedule calls for five round trips between Boston and Providence each 24 hours, starting at Providence at 7:30 a.m. and finishing the day at Boston at 11 p.m. The schedule calls for making the actual distance of 43.25 miles in 44 min. in each direction,

with one stop only at Back Bay Station (Boston). On the last Boston-Providence trip at night local stops will be made, thereby slightly increasing the running time of that one trip. Present steam-train schedules between the two points vary from 55 to 75 min.

General Description

The Comet consists of three body sections articulated and carried on four trucks. The complete train is 207 ft. long and weighs approximately 253,300 lb. in working order. It is powered with two six-cylinder 400-hp. Westinghouse Diesel engines, one in each end of the train. The double-end design presented an interesting aero-dynamic problem because of the symmetrical design for double-end operation and the final shape was selected after a series of wind-tunnel tests on models at the Daniel Guggenheim Airship Institute at Akron and at Columbia University where a running belt was used to simulate the relative velocities between car bottom, air and tracks.

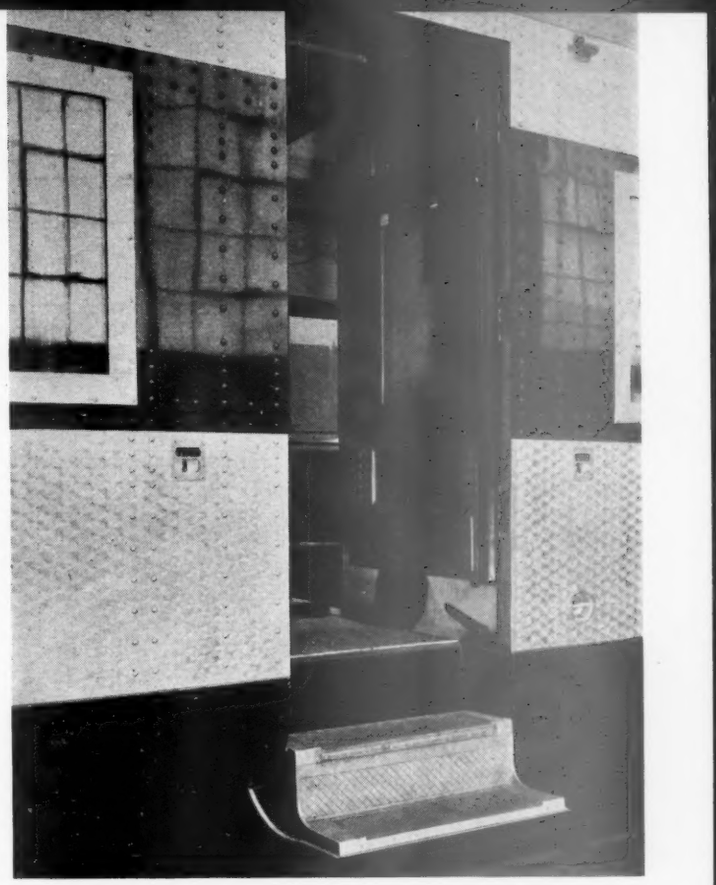
The train is designed for a cruising speed of 90 m.p.h., with a maximum possible speed of 110 m.p.h., and acceleration from standing to 55 m.p.h. in 120 sec. One of the incidental advantages of the double power-plant design is the ability to operate, at a speed of 68 m.p.h., with only one power plant functioning.

Each of the two end body units consists of an engine room and a passenger compartment with seats for 48 persons. Two lavatories are located in each of these cars. The center unit contains additional passenger space in the form of a 36-passenger section and a smoking compartment seating 28 persons. The entire space of the train, exclusive of the engine rooms at each end, is devoted to passenger accommodations, there being no provisions for mail or baggage. The total seating capacity is 160 persons.

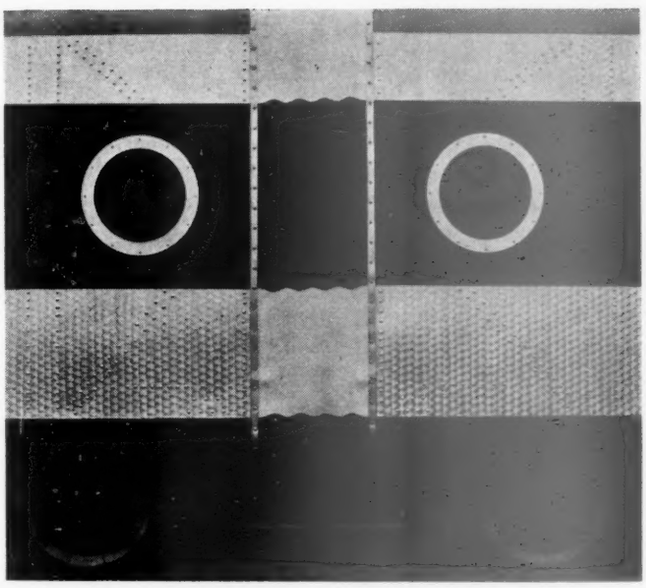
In view of the fact that the train was to be built of aluminum alloy the designers endeavored to utilize the natural appearance of the metal wherever possible. A large part of the exterior was, therefore, treated with a "whorled" finish used for the first time on equipment of this type. The natural tone of the aluminum is augmented by a striking color scheme worked out, in collaboration with the New Haven, by the Sherwin-Williams Company which furnished the varnishes and enamels used for both the interior and exterior finish.

To emphasize the smooth exterior surfaces the color has been confined to two shades of blue enamel, a light blue at the window panel level and a dark blue around the bottom. The natural aluminum with the whorled finish is both above and below the window-panel level all the way around the train and the roof is finished in grey. The natural metal areas are protected by two coats of clear varnish.

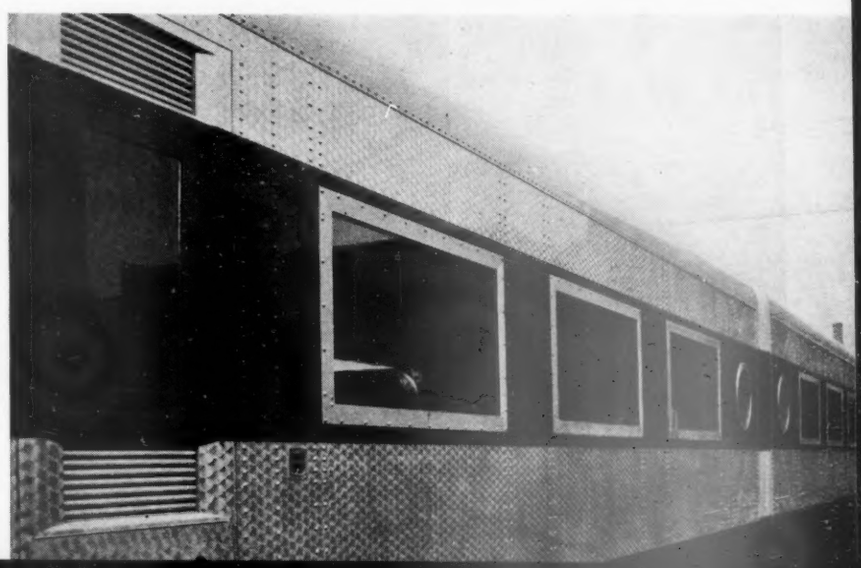
The interior is characterized by its lack of "decoration." Built as it is for a special service on short runs it was desired to develop an attractive, simple color scheme which would bring out the natural effects of the materials used. The ceilings in the passenger compartments are finished in a pink-white with three shades of tan predominating in the side wall color—light tan above the window sills with a medium tan in the panels between the windows and on the bulkhead walls inside the compartments,



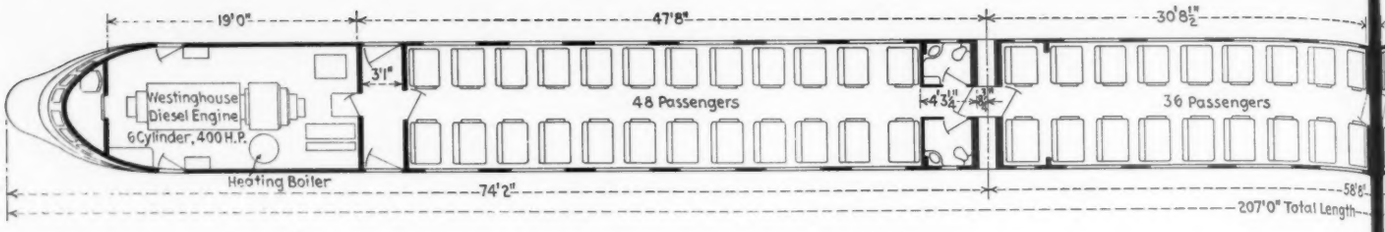
One of the Doors Open, Showing the Folding Step



A Rubber Diaphragm Covers the Opening Between the Cars



The Exterior of the "Comet" Presents a Flush Surface with an Attractive Color Scheme



Floor Plan of the New Have

on vestibule doors, walls and ceilings. The door frames and the panels below the window sills to the side-wall heating ducts are a dark tan and the duct itself is finished in brown. Clear varnish is used on all extruded moldings, inside window frames, baggage racks and all bare or unpainted surfaces. The trucks, end sills, outside end walls and engine bed are finished in grey and the walls and structure in the operator's cabs are finished in grey enamel with black enamel for instruments and apparatus.

The floor covering in the passenger compartments is a continuous rubber covering which is brown in tone.

The seats are of the "walk-over" type, furnished by the Sterling Fibre Company, with aluminum frames and malleable wearing parts. The seat cushions are one-piece and the back cushions are divided as far as the cushion springs are concerned. The rust-colored mohair upholstery was furnished by the Massachusetts Mohair Plush Company. The appearance and the color of the seats dominate the compartment interiors.

The draw curtains over the windows are suspended from carriers which are closely related in design and appearance to the rest of the interior. The curtains are somewhat lighter in color than adjacent chair upholstering. The reverse side of the window drapes, facing the outside of the car, is a rich ultramarine blue, matching the blue belt of the exterior at the window level.

To provide for lighting the train, careful studies were made with the object of obtaining the most uniform light distribution possible. Indirect lighting was adopted, employing 25-watt, S-17 lamps, placed 10 in. apart in troughs which run the full length of the passenger compartments, along either side of the car above the air-distribution outlets. The troughs are made of aluminum alloy, the inner surfaces of which are covered with a special highly reflective, but softly diffusing, aluminum sheet. The light is further diffused and distributed from the ceiling.

Good reflective factors from ceiling and side walls are obtained by a ceiling finished in dead-flat, pink-white enamel, and side walls in three shades of tan. An illumination of from 6 to 8 foot-candles is obtained on a 45 deg. plane 33 in. above the floor.

Each of the headlights on the Comet provides a horizontal and a vertical beam, a 500-watt lamp being used for the horizontal and a 250-watt lamp for the vertical beam.

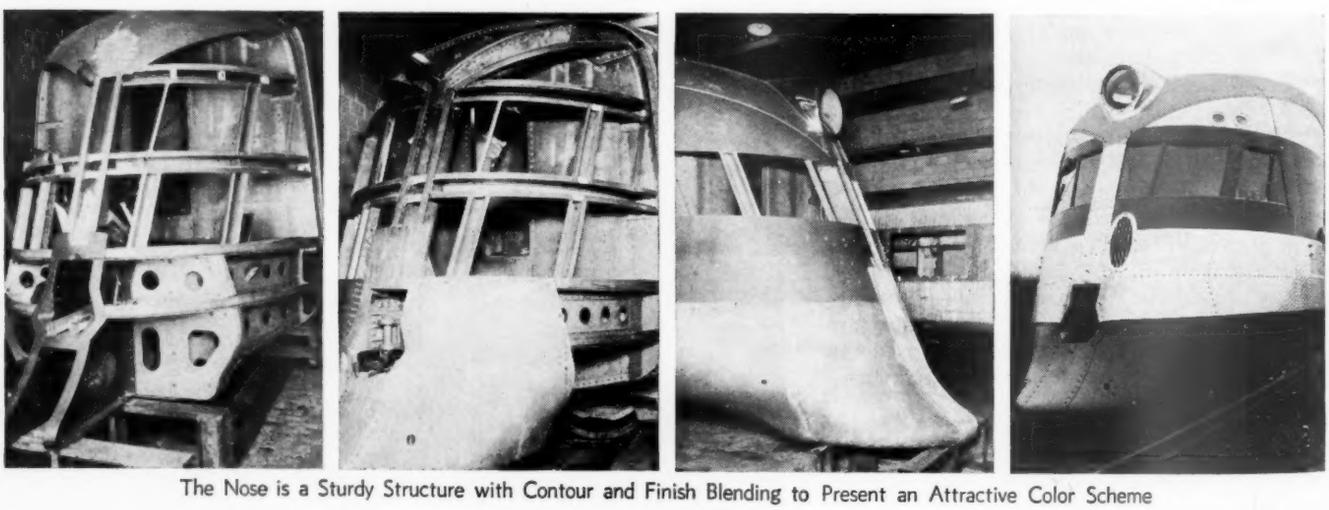
Structural Features

The Comet deviates from standard car construction in several fundamental features in that instead of being built on the center sill or truss principle it is constructed as a tube with flat sides and well arched roof and bottom and with shear and compression stresses absorbed by the outer sheets. This principle was used because of the fact that in bending and torsion the placing of the stressed material in the outer fibres of the tube circumference makes it possible to employ the metal most effectively.

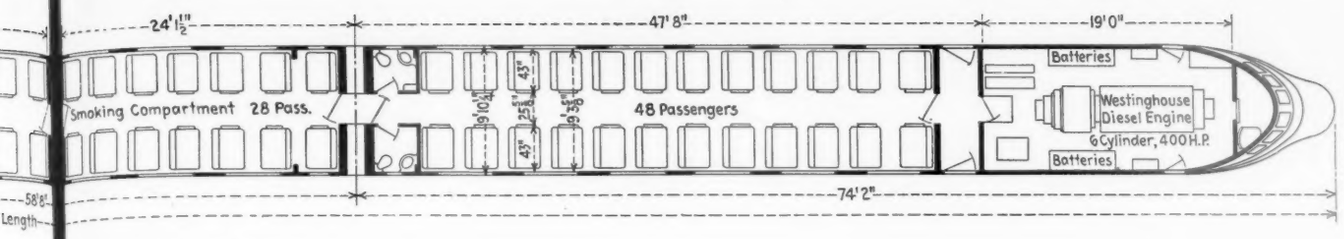
In place of the center sill and other longitudinal framing of the conventional train, four longitudinal tubular members run the entire length of each car at the four corners of the cross-section. They are held in place by the roof carlines, side posts and floor, and at the end of each car are connected by bulkheads rigidly cross-braced to transmit the stresses to the articulated connections.

The tubular construction employed places most of the material in the outer shell, and since the strength members are located at the greatest possible distance from the center of gravity of the cross-section and the maximum moment of inertia is obtained, the deflection in the fully loaded cars is said to be less than $\frac{1}{16}$ in.

With weight reduction and safety paramount factors in the design of the Comet, aluminum was selected as the main structural material. The resistance of aluminum to the corrosive conditions encountered on the seacoast lines of the New Haven was also a factor in the selection of the material. The metal was furnished by the



The Nose is a Sturdy Structure with Contour and Finish Blending to Present an Attractive Color Scheme



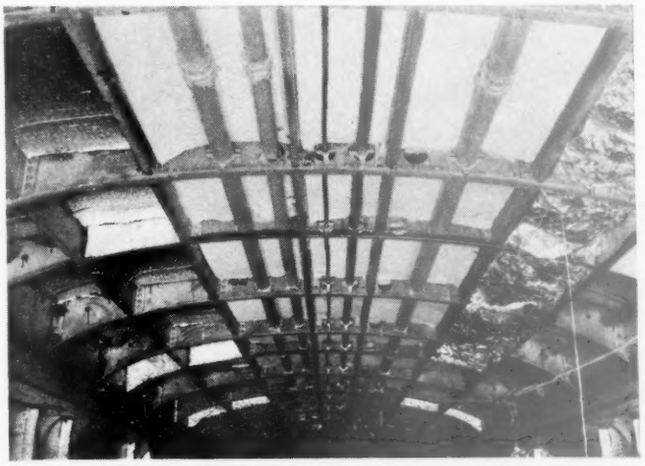
...ew Haven's "Comet"

Aluminum Company of America and this company co-operated with the car builder in developing the necessary extruded shapes. The four longitudinal tubular members are formed from extruded sections, except for the curved outer portion for which sheet is used. The carlines, floor cross-beams and horizontal connecting members are formed sheet.

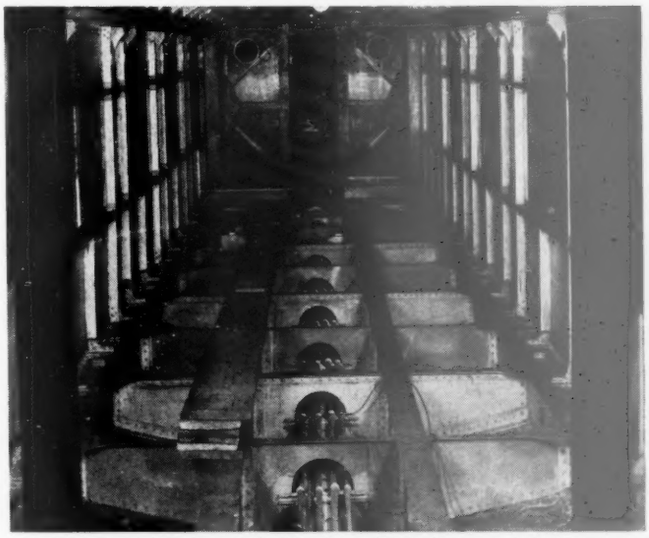
Aluminum castings are employed in many places throughout the superstructure, particularly as a reinforcement for the lower longitudinal tubular members and in order to change the cross-section of the power car from the normal cross-section of the cars to the larger cross-section of the engine room. Aluminum castings are used in the construction of the power plant and control apparatus and for many decorative purposes in the car interiors. The aluminum sections are assembled by means of aluminum rivets, driven cold. The rivet alloy was selected after a series of tests at the Goodyear-Zeppelin plant in Akron. The Comet is the first train which has been built with aluminum rivets throughout.

The four longitudinal tubular members are tied into heavy welded-steel end sills through the end bulkheads. These longitudinal members are so designed that it is possible to place the doors at any point on the sides of the cars, except over the trucks, and, in the case of the Comet, the center of each car was considered the most desirable location. The center vestibules are formed by two strong diagonally braced bulkheads, while diagonal members provide lateral rigidity at the corners of the end bulkheads and help carry the stresses of shock up into the circumference of the tubular car body. Since the shear is least at the center of the car the shear deflection is reduced appreciably by placing the door at this point. The doors and folding steps, pneumatically operated, are flush with the outer contour of the train when closed.

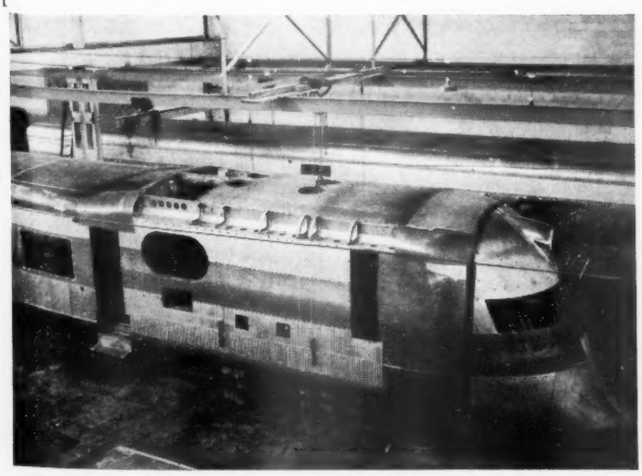
The underframe is formed by connecting the two lower longitudinal tubular members with transverse floor



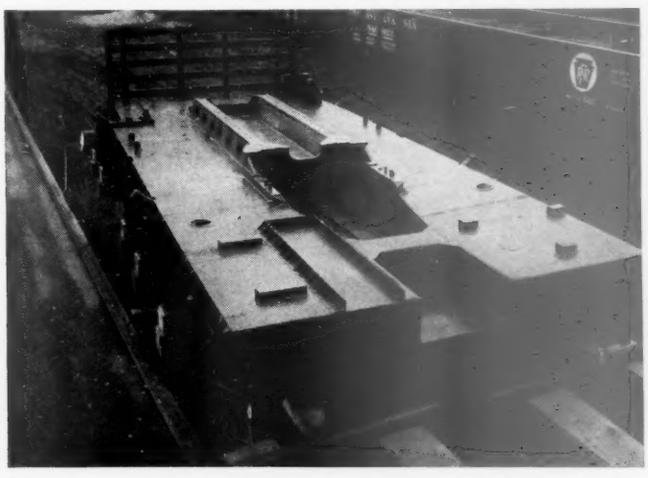
Roof Structure Showing Carlines, Conduits and Insulation



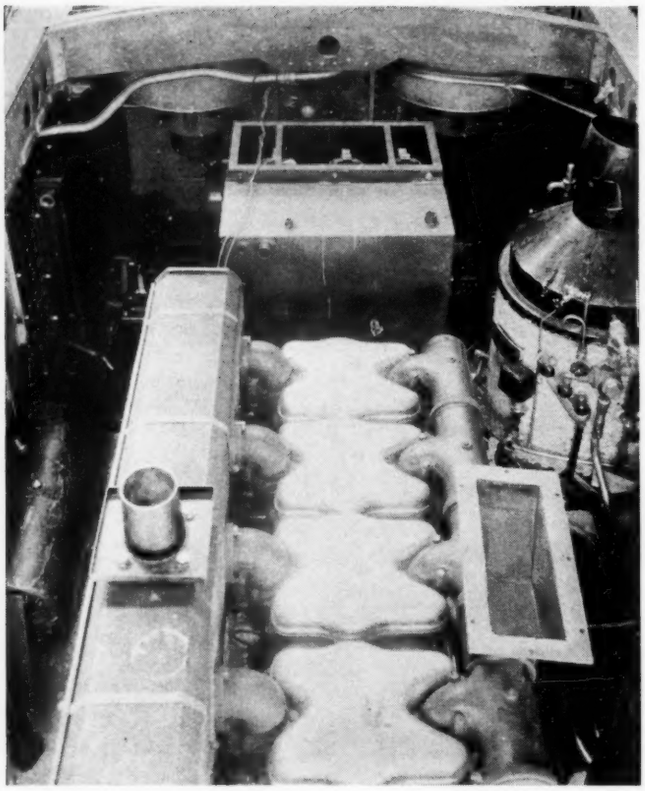
Structural Interior—Side Members, Underframe and Bracing



Construction View Showing Tubular Member Without Sheathing



The Engine Bed is a 19-Foot Fabricated Member



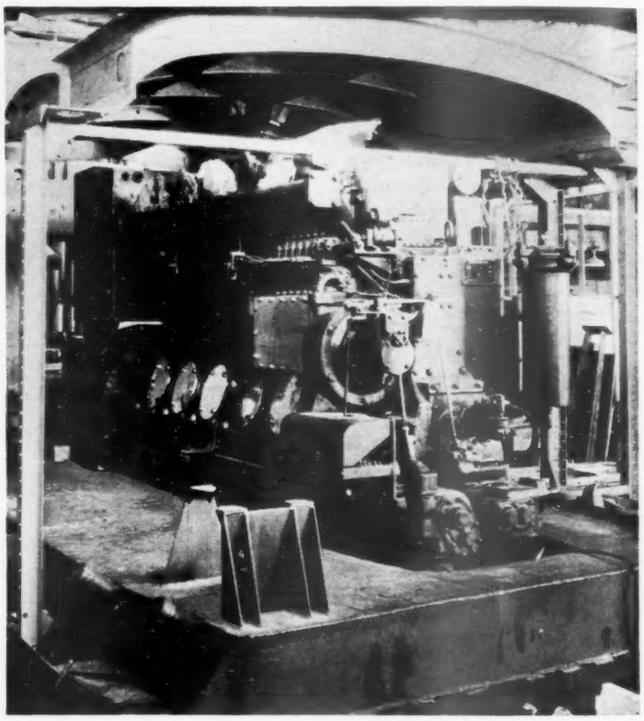
Looking Down Through the Roof Opening at the Engine, Heating Boiler, Radiators and Fans

beams, spaced 39 in. on centers and having a depth of 21 in. at the center. These are braced by supplementary longitudinal members, forming a series of rectangular compartments in which a few parts of the equipment are located and easily accessible through trap doors in the floor. The under side of the underframe is formed from sheet attached to the floor framing.

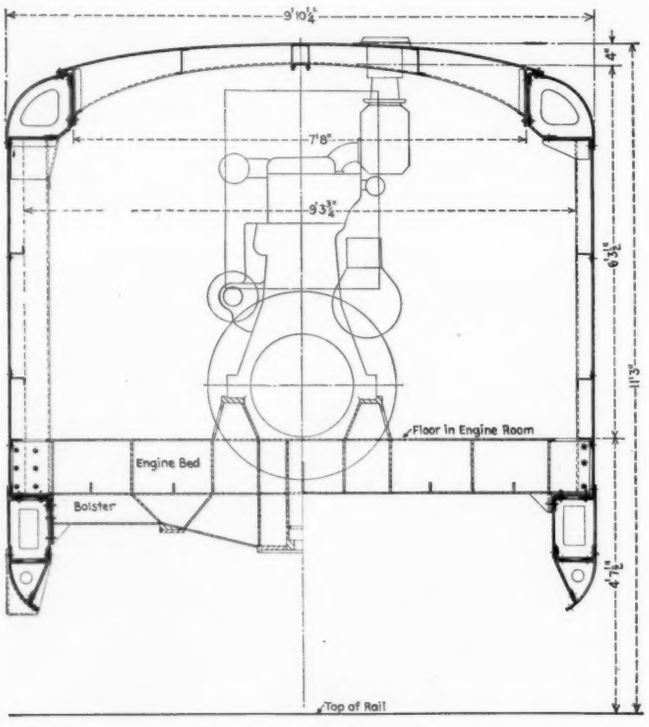
The car floor consists of Keystone flooring with cork filler and ½-in. sheet cork as insulation. Rubber is employed as the top flooring.

The roof structure is formed by connecting the two upper longitudinal tubular members with pressed sheet carlines, spaced 24 in. to 27 in. on centers and braced longitudinally by six intermediate purlines. The roof is covered with heavy-gage sheet and is designed with small panels to provide an extremely rigid structure capable of carrying a heavy bending load without wrinkling.

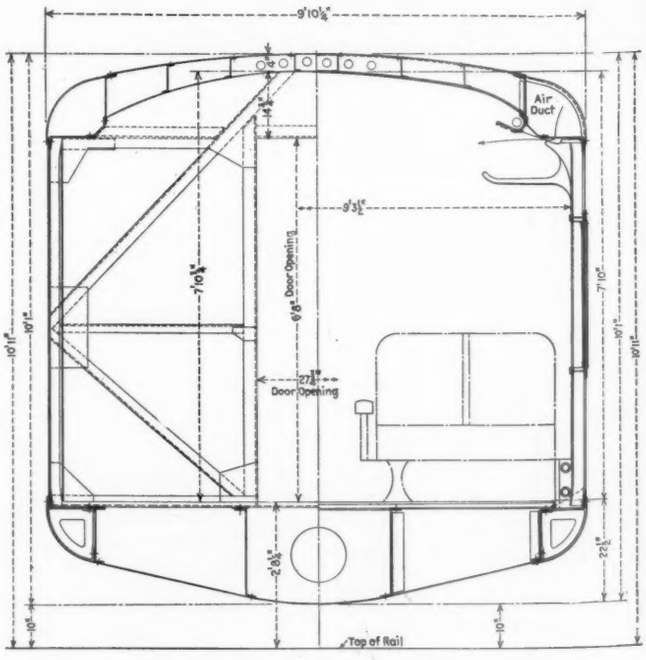
The clear standing height in the center of the car is 7 ft. 10¾ in. The door openings are 6 ft. 8 in. high. The windows, which are 51 in. by 26½ in., are sepa-



One of the 400-Hp. Diesel Engines Being Installed



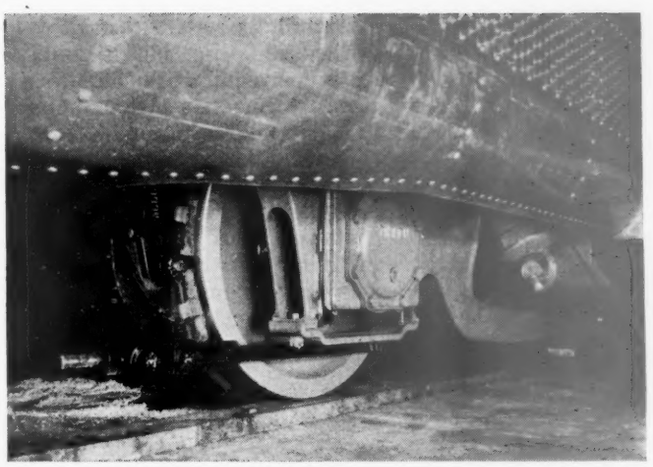
Half Sections Through the Power Unit



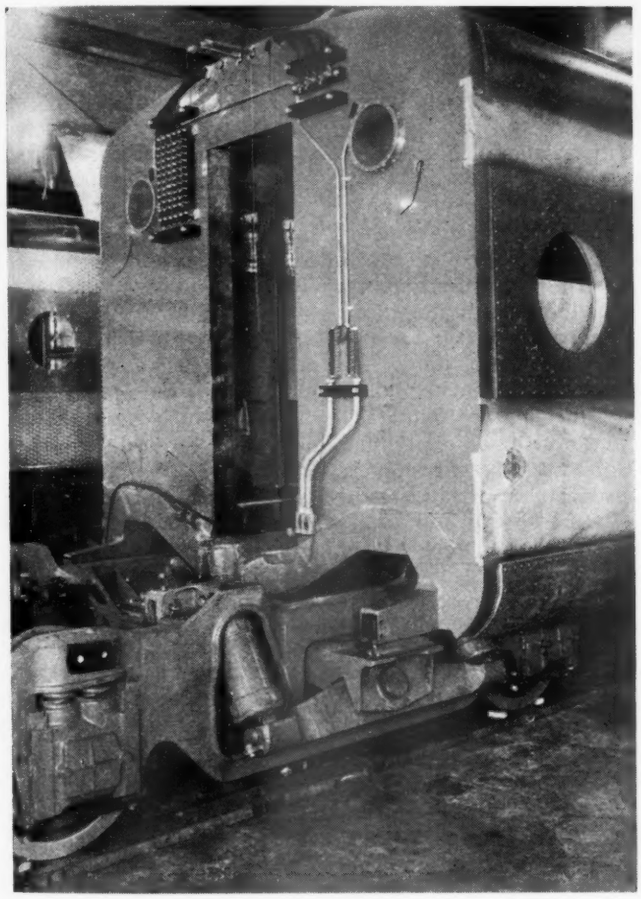
Half Sections Through Passenger Compartments

rated by window posts 24 in. wide. The panels next to the end bulkheads are more than 60 in. wide in order to accommodate the diagonal braces of the end bulkheads.

The two end body units have the same type of construction as the center unit except for the extreme ends in which the power plants are located. For the support of the power plants in the aluminum-alloy car-body structure, welded Cromansil-steel bed plates are used, which replace part of the car under-structure over the trucks. The bed-plates are approximately 19 ft. long and, extending over the full width of the car, form not only the lower portion of the crankcase and the generator support, but also the body bolster with its side and center bearings, and all brackets required for mounting auxiliaries and the tie-in with the rest of the structure.



The Body Shrouds the Trucks Decreasing Air Resistance

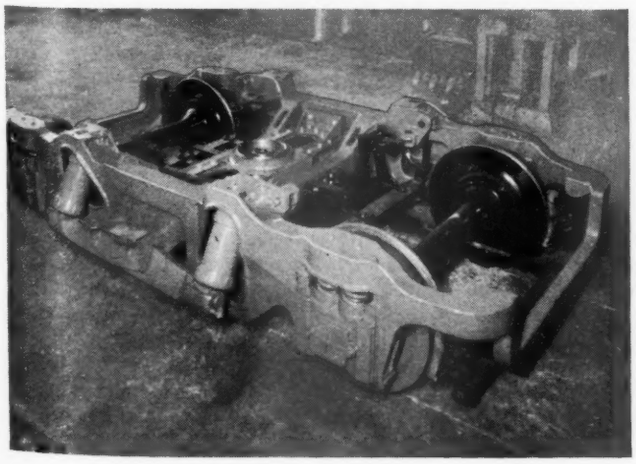


Intermediate Truck, Articulation Member and Side Bearings

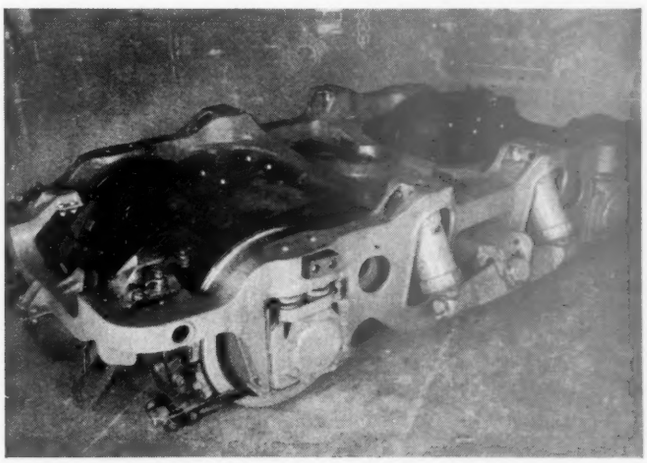
The bed-plate is formed from two plates, one on the top and one on the bottom, and longitudinal and transverse bulkheads, which create a series of compartments used for the storage of fuel, lubricating oil and water.

The longitudinal and transverse bulkheads are welded on both sides to the bottom of the bed-plate. Since it was impossible to use the same method of welding for the top sheet, it was made in pieces to cover the individual compartments and welded alongside the upper edges of the bulkheads. To increase further the strength of this weld a ¼-in. rod was tack-welded to both sides of the bulkhead edges. This rod, on which the individual top pieces were supported while being welded, served as forms for the creation of fillets under the plates equivalent to those obtained on a casting. Pipes, some serving as conduit for the wiring to the electric traction motors, others for sanders, the filling and drain connections and also for the steam cleaning of the oil compartments, were welded directly to the structure before the top sheets were applied. An empty space with drain holes has been provided between all compartments containing different types of liquids. After the top plate was applied the engine and generator supports and the body bolster were welded in place.

On account of the high degree of accuracy required



One of the Intermediate Trucks



A Power Truck, Showing Motors and Shock Absorbers

for the bed-plate, it was not only necessary that all welding operations be performed in a jig, but in addition some forming operations were required during the various stress-releasing heat treatments. After the bed-plate was completed, it had to be accurately machined not only to make a tight crankcase and for motor-generator alinement, but also to provide the correct dimensions between center and side bearings and the rest of the structure.

To assure tightness of the various compartments they were tested under pressure and liquid soap applied at all points where a possible leakage might occur. The bed-plates were fabricated by the Babcock & Wilcox Company, Barberton, Ohio.

To facilitate the removal of the engine from the car a section of the roof immediately above the bed-plate is removable.

Each end of the train forward of the power plants involves a design which contributes to extreme rigidity. The two lower longitudinal tubular members are formed into a horizontal arch at the end of the car and riveted into a welded-steel structure. The lower portion of this welded-steel member forms the pilot, while the rear portion is connected to the floor structure and to a heavy shear plate. It also forms the pocket for the stationary draft gear and a removable coupler which is carried inside the train when it is not in use.

The front post, which is connected with the welded-steel front member, is tied in with two arches composed of the upper and lower edges of the window-frame girders and on the top it flares out in the form of a Y into the two upper longitudinal members which are arched to meet it.

The entire framework is covered with heavy-gage aluminum-alloy plate, as is the bottom of the underframe. This results in a stiff shell reinforced by the framework, window posts and bulkheads. The front ends are designed so they may be removed at the front engine-room bulkheads and replaced by new ones without reducing the strength at the points of connection, a feature that is especially important in an articulated train where serious damage to one of the ends ordinarily would result in the whole train being kept out of service until the damaged parts had been repaired.

The interior sheathing for the train consists of light-gage aluminum sheet on the curved roof and Haskelite Plymetl on the sides. The upper longitudinal tubular members are utilized as ducts for circulating and distributing the air from the air-conditioning equipment. The extruded lighting troughs, used for the indirect lighting of the interior of the cars, are attached to the upper longitudinals and run the full length of the car.

The space between the inner and outer sheathing, which is about 3 in. wide, is filled with Nicolfelt and Alfol to insulate the train against heat and sound. Nicolfelt consists of a heavy layer of hairfelt to which has been cemented, on one side, a single layer of aluminum foil. The Nicolfelt is applied to the outer and inner sheathings with the foil sides facing each other. The space between the Nicolfelt insulation is filled with several layers of Alfol. The insulation is not only applied to the side walls and roof, but also to the end bulkheads, the underframe and air-conditioning ducts.

The structures of the three bodies represent approximately 20 per cent of the weight of the entire train.

Power Plant

The power plants, each consisting of a six-cylinder, 400-hp. Diesel engine and generators, were designed and built by the Westinghouse Electric & Manufacturing Company. Both power plants are identical. The Diesel engine operates on the four-cycle principle having six cylinders of 9-in. bore by 12-in. stroke, developing 66.7 hp. at 900 r.p.m. The weight per horsepower is 30 lb., exclusive of generator, and, including the generator, 45 lb. The engine has a seven-bearing crankshaft with aluminum pistons, nickel-chrome forged-steel connecting rods and nickel-steel piston pins. Babbitted bronze rod bearings are used at the crankshaft end. Each rod and piston assembly weighs 93 lb. and may be removed through doors in the crankcase. The upper crankcase is cast steel and the fabricated engine bed serves as the lower half. Removable nickel cast-iron cylinder liners are surrounded by the water space, with rubber rings forming a joint to prevent water from entering the bed-plate. The cylinder heads are cast aluminum.

The governing of the engine is controlled by means of an oil-type governor which is, in effect, a geared oil pump driven from the engine. This regulates the oil pressure to the governor proper, the pressure varying with changes in speed as a result of load or by the operator alternating the by-pass opening in the pump. The oil pressure is transmitted to a system of relay and operating pistons attached to the fuel pump plungers.

Engine speed is controlled by an electro-pneumatic governor operator, actuated from the master controller, which regulates the supply of fuel oil to the engine, in conjunction with the oil-pressure-type governor; likewise automatic timing is effected, for each engine speed notch on the master controller, through the operation of the fuel pump timing mechanism which controls the operation of an individual fuel pump for each cylinder.

Protection against overspeeding is afforded by an overspeed governor, and against low lubricating oil pressure by a pressure piston, both of which actuate the fuel pump tripping device to by-pass the fuel oil around the pump and stop the engine. The engine may also be shut down by remote control from the operator's compartment, when air pressure is available, by energizing an electro-pneumatic tripping mechanism, mounted at the front of the engine.

The fuel oil is drawn from a tank by a gear booster pump. This pump supplies fuel under pressure of 40 lb. to the main fuel pump intake. From there it is discharged from the individual pumps under a pressure of approximately 6,000 lb. per sq. in. through a ball delivery valve located on the pump and the fuel piping system is charged at all times. The atomizer located in the cylinder head is in effect a spring-loaded valve which lifts at 3,600 lb. per sq. in. The nozzle holes are seven in number, .0145 in. in diameter.

In connection with the Diesel engine force-ventilated radiating systems are provided—one for cooling the engine-jacket water and the other for cooling the lubricating oil. The operation of the motor-driven blowers is controlled by a thermostat located in the water system and by manually operated push buttons.

Electrical Equipment

Each engine drives a main and an auxiliary generator which supply power for the operation of traction motors and auxiliary apparatus throughout the train. The current generated by the main generator is governed by the torque-control system and is transmitted through switching and control devices to operate the axle-hung traction motors which are geared to the driving axles. There are two traction motors on each power truck.

The main generator, which bears a nominal rating of 500 volts, is operated as a motor to start the Diesel engine when connected to the storage battery through its series-starting field. The starting circuits are controlled by magnetic contactors which are operated from the starting push buttons in the engine room for initial

starting (cold engine, no air pressure, etc.). To restart the engine after short layovers, if air pressure is available, the starting contactors may be remotely controlled from either operator's compartment. The battery is an Exide Ironclad, consisting of 56 Type MVM13 cells. It is arranged in tiers on either side of one of the engines, and the tiers are enclosed by metal covers.

During idling, the main generator is used through the starting connections to charge the battery and, at the same time, to operate the air compressor and radiator-blower motor. As the throttle lever is notched out and the engine speeds up, the auxiliary load is transferred from the main generator to the auxiliary generator so that air-compressor operation and battery charging are obtained virtually at all times. The auxiliary generator is rated at 140 volts. Low-voltage motors are used to controlled by the master controller, through the operation of various switching devices which are grouped together in control cabinets. The starting and control contactors, and those employed in the auxiliary apparatus circuits, are of the electro-magnetic type, while the power switches and reverser in the traction-motor circuit are of the electro-pneumatic type.

On the meter and gage panel at each control station are mounted the load and battery ammeters, main generator voltmeters, engine lubricating oil and cooling water gages and a warning signal light indicating high-temperature jacket water at the opposite end of the train.

Air Conditioning

The Comet is air conditioned by a Westinghouse system having 14 tons refrigeration capacity. Two Freon

Partial List of Materials and Equipment on the New Haven "Comet"

Car builder, complete train	Goodyear Zeppelin Corp., Akron, Ohio
Diesel engines	Westinghouse Elec. & Mfg. Co., East Pittsburgh, Pa.
Agate fireproof tank caps.	Murdock M. F. Co., Akron, Ohio
Louvres	Ellison Bronze Co., Jamestown, N. Y.
Aluminum alloy sheets, castings, fittings	Aluminum Co. of America, Pittsburgh, Pa.
"Double strength" steel	Republic Steel Corp., Youngstown, Ohio
Steel shapes and sheets.	Republic Structural Iron Works, Cleveland, Ohio Edgar T. Ward's Sons Co., Pittsburgh, Pa.
Plymetl	Haskelite Manufacturing Corp., Chicago
Welding rod and flux	Handy & Harmon, New York
Bolts, nuts, washers, screws, etc.	National Screw & Mfg. Co., Cleveland, Ohio Shakeproof Lock Washer Co., Chicago United Screw & Bolt Corp., Chicago Aero Supply Mfg. Corp., Corry, Pa.
Fibre washers and sheet.	Spaulding Fibre Co., Tonawanda, N. Y.
Turnbuckle parts	Upson-Walton Co., Cleveland, Ohio
Bed-plates and end sills	Babcock & Wilcox Co., New York
Truck frames	General Steel Castings Corp., Granite City, Ill.
Steel castings	Atlantic Foundry Co., Akron, Ohio West Steel Castings Co., Cleveland, Ohio
Hydraulic shock absorbers (trucks)	Cleveland Pneumatic Tool Co., Cleveland, Ohio
Coupler, yoke and draft gear	National Malleable & Steel Castings Co., Cleveland, Ohio
Wheels and axles	Carnegie Steel Co., Pittsburgh, Pa.
Rubber bushings	Continental Rubber Works, Erie, Pa.
Center pins	W. H. Miner, Inc., Chicago
Swing hanger cross bars.	American Car & Foundry Co., New York
Swing hangers, pedestal tie bars, springs	American Locomotive Co. (Ry. Steel Spring Div.), New York
Brake shoes	American Brake Shoe & Fdry Co., New York
Air-brake system	Westinghouse Air Brake Co., Wilmerding, Pa.
Clasp brakes and roller-bearing assemblies	American Steel Foundries, Chicago
Staffless brakes	National Brake Co., Buffalo, N. Y.
Side bearings	A. Stucki Co., Pittsburgh, Pa.
Ball bearings	Fafnir Bearings, Inc., New Britain, Conn.
Roller-bearing units on all axles	Timken Roller Bearing Co., Canton, Ohio
Oil-Less bearings	Bound Brook Oil-Less Bearing Co., Bound Brook, N. J.
Oilite bearings	Amplex Manufacturing Co., Detroit, Mich.
Lubrication	Texas Co., New York Gulf Refining Co., Pittsburgh, Pa. Socony-Vacuum Oil Co., New York
Felt material	American Hair Felt Co., Chicago
Insulation material	Alfol Insulation Co., New York Gustin-Bacon Mfg. Co., Chicago Geo. A. Nicol Co., New York
Pipe and boiler insulation	Philip Carey Co., Cincinnati, Ohio
Joint compound	E. I. duPont de Nemours & Co., Philadelphia, Pa.
Insulating cement	Eagle Picher Lead Co., Cincinnati, Ohio
Water and rust-proof cement	Dolphin Paint & Varnish Co., Toledo, Ohio
Copper, brass, bronze sheets and tubes	Chase Brass & Copper Co., Waterbury, Conn.
Bronze fittings and materials	Wellman Bronze & Aluminum Co., Cleveland, Ohio
Doors	Morton Mfg. Co., Chicago
Automatic door and step operating mechanism	National Pneumatic Co., New York
Windows, hardware, etc.	Adams & Westlake Co., Elkhart, Ind.
Curtains and interior decorating	Irvon & Gormley, Cleveland, Ohio
Curtain fasteners	Kirsch Co., Sturgis, Mich.
Enamel and varnish	Sherwin-Williams Co., Cleveland, Ohio
Bronze wire cloth	W. S. Tyler Co., Cleveland, Ohio
Glass in doors and operator's compartments	American Window Glass Co., Pittsburgh, Pa.
Glass, side windows	Pittsburgh Plate Glass Co., Pittsburgh, Pa.
Windshield wipers	Hays Corp., Michigan City, Ind.
Stainless steel moldings	Brasco Mfg. Co., Harvey, Ill.
Thin wall steel conduit	Graybar Electric Co., New York
Batteries	Electric Storage Battery Co., Philadelphia, Pa.
Special electric cable	Boston Insulated Wire & Cable Co., Boston, Mass.
Marker and classification lamps	Pyle-National Co., Chicago
Rubber channel	Johnson Rubber Co. (Div. of Ohio Pail Co.), Middlefield, Ohio
Mechanical rubber goods and flooring	Goodyear Tire & Rubber Co., Akron, Ohio
Webbing	Georgia Webbing & Tape Co., Columbus, Ga.
Tread plates	American Abrasive Metals Co., Irvington, N. J.
Cork subbase for flooring.	Armstrong Cork & Insulation Co., Lancaster, Pa.
Keystone flooring (shaped)	Berger Bldg. Div. of Truscon Steel Corp., Canton, Ohio
Air conditioning, electrical equipment and controls.	Westinghouse Elec. & Mfg. Co., East Pittsburgh, Pa.
Filters for air conditioning	Plymouth Cordage Co., North Plymouth, Mass.
Grilles	Tuttle & Bailey, Inc., New Britain, Conn.
Heating and ventilating system	Vapor Car Heating & Lighting Co., Chicago
Seats	Sterling Fibre Co., Waltham, Mass.
Seat covering	Massachusetts Mohair Plush Co., Boston, Mass.
Sanding equipment	Viloco Railway Equipment Co., Chicago
Tyfon horns	Leslie Co., Lyndhurst, N. J.
Plumbing, hardware, basket racks	Dayton Manufacturing Co., Dayton, Ohio
Valves and fittings	Scott Valve Mfg. Co., Detroit, Mich.
Drinking-water coolers	Henry Giessel Co., Inc., Chicago
Drinking-cup dispenser cabinets	Logan Drinking Cup Co. (Div. of U. S. Envelope Co.), Worcester, Mass.
Toilet-paper cabinets	Morgan Paper Co. (Div. of U. S. Envelope Co.), Springfield, Mass.
Towel cabinets	West Disinfecting Co., Long Island City, N. Y.
Hardware	Stanley Works, New Britain, Conn. Russell & Erwin Mfg. Co., New Britain, Conn.

drive the air compressor, so that full air capacity is available with the engine idling.

The power for the air-conditioning compressor motor is supplied from the auxiliary generator during idling and engine power periods. Manual control is provided to transfer the power circuits to the main generator for pre-cooling and extended idling periods.

The control circuits are energized from the battery, being independent of the engine speed.

The 110-volt lighting circuits are connected across the battery and auxiliary generator through carbon-pile regulators and the lights are controlled from No-fuse switch stations.

The speed and direction of motion of the train are

compressors are driven by direct-connected d.c. motors of 12 hp. each. One of these power units, together with its condenser and liquid receiver, is mounted in each of the power compartments at the ends of the train. The compressor and motor are mounted on a common bed-plate which in turn is mounted on the car floor. The condenser is divided into two sections. A section is located on each side of the car at the intakes for the air to the engine-cooling radiators. With the volume of air required by these radiators passing through the condenser pressures may be kept to minimum values under adverse conditions.

Two evaporator and blower units are provided for each body section of the train. Each unit consists of

the evaporator coils, heating coils, fans and motors, the expansion-control apparatus and the drip pan. The units are mounted side by side in the center of the car directly over the entrance and encroach less upon head room than would a single unit of like capacity. On account of the greater seating capacity of the center body section, these two units have a cooling capacity of 2½ tons each. For the end sections 2-ton units are used. Each 2½-ton unit circulates approximately 1,000 cu. ft. of air per min. and the 2-ton unit circulates approximately 800 cu. ft. of air per min.

A novel arrangement is provided to control automatically the operation of the two compressors and six air-conditioning units. One compressor normally supplies the two air-conditioning units in each power section of the train and one of the air-conditioning units in the middle section. Cooling thermostats with three tubes for low, medium or high setting control the operation of the compressors. Each compressor is controlled by two thermostats, one located in the passenger compartment of the power section and the other located in the middle section of the train. The cutting in of either of the two thermostats starts the compressor which it controls. On the other hand, the outputs of the air-conditioning units are controlled separately. For instance, while the cutting out of the thermostat in the power section of the train does not shut down its compressor unit, it does cut out the air-conditioning units in that section by closing off the refrigerant from these evaporator units through electro-magnetic valves.

The blowers deliver air to the ducts on each side of the cars in both directions from the centrally located evaporator units. The heating coil is provided in each evaporator unit and has sufficient capacity to deliver 420 B.t.u. per min. to the car with 70 deg. F. entering air and two pounds steam pressure in the coils.

Flexible connections similar to flexible metal hose connect the refrigerant lines between cars at roof level.

Trucks

The trucks on the Comet are a departure from conventional design in that shock absorbers which combine hydraulic and mechanical action have been substituted for the customary arrangement of elliptic springs between the bolster and truck frame. Two coil springs are, however, used between each outside journal box and the truck frame. Each of the four trucks on the train have frames furnished by the General Steel Castings Corporation. The bolsters extend through the side frames and an equalizer is fulcrumed at its center in a jaw at each end of the bolster. Between each end of each equalizer and the truck frame is a hydraulic shock absorber furnished by the Cleveland Pneumatic Tool Company. The static load on the shock absorbers is carried by heavy coil springs within the shock-absorber casing. The movement of the springs due to any variations in the load is resisted by a hydraulic piston, the action of which is governed by a metering orifice through which the fluid within the casing must flow from one side of the piston to the other. The train is virtually suspended on a cushion which permits it to "float" over crossovers and rail joints with a minimum of shock being transmitted to the car body. The shock absorbers, four to each truck, are similar to, but much heavier than, those employed on aircraft landing gear. Stucki side bearings are used at the bolster ends.

The power trucks, each having two traction motors, are equipped with 36-in. diameter rolled-steel wheels and Timken roller bearings. The trailing trucks are equipped with A.S.F. roller-bearing wheel-and-axle units fitted with Timken roller bearings. The wheels are 30 in. in diameter. The wheels and axles were furnished by the Carnegie Steel Company. Simplex unit-cylinder-type clasp brakes are used on all four trucks.

Brake Equipment

The train is equipped with the Westinghouse Air Brake Company's HSC brake equipment which is a three-phase brake system consisting of (1) a primary straight-air-brake system operating electro-pneumatically to provide a quick, uniform brake through the train and including the element of high flexibility; (2) a secondary automatic air-brake system suitable for operating the train behind a steam road locomotive when the train is hauled "dead"; (3) a safety control system, electro-pneumatically interlocked with the two basic systems, to guarantee their integrity against any failure.

Provision for stopping this train in a distance equivalent to that now obtained with the maximum speed of present steam trains, although operating at higher speeds, is made by the use of the Decelakron which functions to reduce brake-cylinder pressure as the co-efficient of brake-shoe friction increases with the reduction of speed so that a high but uniform rate of deceleration may be maintained from the beginning to the end of the stop.

Interlocked with both the service and emergency brakes is the safety control system which functions to cut off the power and produce an emergency brake application whenever the operator fails to have either his hand on the controller or his foot on the safety pedal.

Heating System

Heating is provided by an automatic oil-burning Peter Smith steam boiler furnished by the Vapor Car Heating Company. Complete automatic control devices are used as boiler accessories. Spark-plug type controls regulate water level and also serve as a positive "shut-off" of the solenoid valve in the oil feed line and oil burner should the water level become low due to any defective condition in water feed line or shortage of water in main supply or storage tanks. Other controls include an "out-fire stack switch" which automatically closes the solenoid valve in the oil feed line should the fire go out while operating on "low flame." This prevents oil from entering the hot combustion chamber, thereby creating heavy gases and dense smoke.

A pressure switch is provided to conserve fuel oil. This switch can be set to suit outside temperature conditions. On mild to moderately cold days the pressure switch can be set at between 25 and 35 lb. When the pressure in the boiler reaches this setting the flow of oil is automatically restricted and the speed of the burner blower is reduced, placing fire on "low flame." Proper safety valves, drains, wash-out ports, gages, etc., are provided to meet all service and boiler specification requirements. Pumps for both water and fuel oil supply are located near the boiler in the engine room, with combination water and oil storage tanks under the floor.

The steam supply from the boiler passes through a Vapor reducing valve to the train line under all three cars, connections being made through hose and solid-connected fittings between cars. Branch pipes lead from the train line to side-wall Vulcan copper-fin radiators, also separate heating radiators in each air-conditioning evaporator unit. From train-line pressure reduction is made to atmospheric pressure through Vapor combination constant-pressure valves and regulators.

Centralized Vapor control panels for floor heat and complete temperature regulation and ventilation through the use of air-conditioning units have been applied to the cars. The train can be heated by steam from terminal or yard supply during layover periods.

An Outside Business View of Railroad Problems

Kansas City Commerce Chamber surveys transportation situation—Finds against "planned economy"

[The following article is abstracted from a report prepared by the Transportation Committee of the Chamber of Commerce of Kansas City and approved by the board of directors of that body. The RAILWAY AGE *publishes this statement—not because of agreement with the conclusions reached—but because it obviously represents a serious and intelligent effort by a group of business men to consider transportation from a broad social and economic point of view instead of in the light of their own immediately selfish ends. This report is discussed in the leading editorial elsewhere in this issue.*—EDITOR.]

THE statement is often made that if the plans of the Co-ordinator are not consummated, if these various economies are not effected, if regulation is not extended to all forms of transportation, if there be not a planned economy of transportation, the alternative will be government ownership. To consider these, first, as to the recommendations for a careful planning of future transportation development—

"Planned Economy" Would Have Multiplied Interurbans

Suppose one should go back about 20 years, say to 1914. The interurban railroads recently had been completed from Kansas City to St. Joseph, to Excelsior Springs, to Lawrence. The same was true all over the country; the interurbans were doing well; had deprived the railroads of practically all the local passenger business in their vicinities, and were edging in on the freight business.

The railroads at that time were not prosperous; substantial increases in rates just had been granted in eastern territory, and were pending and later granted in western territory. Suppose a group of wise men, becoming cognizant of the impending great developments, had been constituted a national planning board to guide the development of transportation. Could they have foreseen or would they have advocated the development of the highways? Certainly they would not have advocated highways paralleling the railroads, considering that those sections already had adequate transportation. They doubtless would have recommended further extension of interurbans—and now the interurbans which have not been torn up or abandoned are in great financial difficulty. Even if such a board had been created, would not the present developments have come about, regardless of its attempts to confine development or evolution to the lines which it, in its best judgment, considered the most advantageous or economical?

It is easy to make plans and suggestions, the test is the practical application of those plans and suggestions. Remember that the Co-ordinator is willing to take unto himself the burden of revising the transportation system, but without an iota of responsibility for failure. The railroad executives now have the same responsibility for planning, but they also have the responsibility for failure—perhaps this is what makes their movements in many instances seem slow.

Why Not "Co-ordinate" Retail Stores and Soap?

The suggestions which may be made for planned economy and improvements and savings in the transportation system pale into insignificance when compared with suggestions which might be made affecting the common, every day commercial life. Theoretically, vast economies could be made in further consolidations of drug stores, grocery stores, department stores, factories, etc. For instance, two drug stores exist on nearby corners, operated with equal efficiency, handling the same lines of goods, and each enterprise enjoys a patronage and furnishes a return to the owner and livelihoods for the employees. Theoretically there should be only one drug store, which would operate much more cheaply than two, with perhaps a 25 per cent reduction in employment. Of course, this consolidation would leave out of consideration any convenience to the public, the patrons of these stores, and any personal likes or dislikes of any patrons, or any difference in disposition or willingness of the proprietors to accommodate the public.

A check of any street will disclose numerous stores in the same lines of business. All the merchandising done in a series of blocks could be consolidated into one huge mercantile establishment. There are perhaps half a hundred brands of shaving soap and cream, tooth powder and paste, etc. Put on the market one brand of each of these articles, manufactured in one factory, and it ought to severely reduce the price. This is only the beginning; the savings by the economies thus to be made, if real, could be applied to retire the national debt; but actually would have to be used to take care of the pauperized working people who would be unemployed due to such consolidations. The same principles apply to the Co-ordinator's scheme for a planned transportation economy, with its consolidations—which he speaks of as co-ordinations.

Inquiry should be made also into the economies which the Co-ordinator will effect. For instance, he states that in the terminal co-ordinations studied up to the present time the saving will be $25,000,000 annually; and that the final total will be as much as $50,000,000 annually, and that this would be increased greatly if co-ordination were to be extended beyond the terminal districts.

Compensating Employees for Work Not Needed

To offset this there is the recently enacted railroad pension plan now in the courts, and the plan of the Co-ordinator for compensation for employees dismissed by his proposed co-ordinations. Under the present statute the Co-ordinator is forbidden to order any changes which will reduce the number of railroad employees below the number employed on May 1, 1933. He is seeking to have this prohibition removed from the

Act, for it acts as a stop, because most of the economies that are to be effected are at the expense of employees. Under the Co-ordinator's dismissal compensation plan the employees whose jobs are abolished will be given, in theory, on the average of a year's pay; but in practice it will be considerably less, because the employees who will be dismissed are in most cases those with relatively short terms of service. An employee 35 years of age, with 10 years service, who has averaged $100 a month would receive $656.25; in effect nothing more than six months' notice of dismissal.

A check of switchmen employed on one of the Kansas City railroads discloses that, predicated upon a proportionate reduction in force for all roads, approximately sixteen switchmen would be retired, of whom not more than six would receive compensation of an average amount of $300 each. What would become of these people? They would have to be supported. Apparently they are now doing useful work; if as the result of evolution or change in conditions these men's jobs were to vanish that would be bad enough, but apparently there can be no great degree of wisdom in embarking upon a plan which, judging by the experience of the past, is not sure of success, and which will have the result herein indicated.

The plan of the Co-ordinator for consolidating the terminals at Kansas City was considered some months ago by the Transportation Committee, which for various reasons went on record against it, and this committee action was approved by the board of directors. Among other things it was considered that this plan would interfere with terminal service upon which our industries depend, reduce competition, and radically reduce employment. Secondly, the proposals of the Co-ordinator rest largely upon the theory that competing forms of transportation should be regulated.

Truck Regulation Will Bring Many Problems

Can there be effective regulation of these competing forms of transportation? The motor buses are not the ones that have played havoc with railroad passenger traffic, it is mainly private automobiles; likewise, the private or individually owned truck has made great inroads into railroad and common carrier truck freight traffic. The bill proposed by the Co-ordinator exempts the "occasional hauler." Even a trucker who has a license or a permit as a contract or common carrier can escape regulation by purchasing outright the goods that he transports. It can be said that a clause prohibiting such practice can be put in the motor transport bill, but it will be a much greater task to police than even prohibition enforcement.

The regular established motor trucking firm can be found, its trucks and routes can be policed, it is true; but how about the so-called independent who has only one or two trucks and drives one himself, and who knows nothing of making elaborate reports and who hauls for his neighbors almost exclusively? How about national distributors of merchandise who own and operate their own trucks and who will escape any burden and thereby gain added advantages over their smaller competitors who must patronize regulated transport?

"More Water Cannot Be Pumped Out of the Well Than Runs In"

A basic principle of economics is that expenses must be something less than income. This has been utterly disregarded in setting railroad rates; first it is found out how much it takes to run the railroads and then rates are made accordingly, instead of ascertaining how much they take in and arranging their expenses accordingly. Continually raising the railroad costs by way of restoration of wage cuts, imposition of pension plans, retirement plans, etc., means that the railroads will get into greater and greater difficulties. More water cannot be pumped out of the well than runs in. The great trouble in the present situation is that for every man uneconomically employed, that is whose services do not return his wages and a little more, pressure is exerted to dismiss someone else or cut expenses otherwise to make up the deficit. It likewise is true that for every man profitably employed, whose services are returning something more than his wages, the pressure is great to employ someone else to do some other needed job. The railroads will never make the grade under the present conditions.

Therefore, would it not be better, instead of imposing this elaborate plan of regulation proposed by the Co-ordinator, to knock some of the shackles off the railroads, give them liberal privileges—of changing rates on short notice, relief from the onerous burden of the fourth section, let them go on the principle of charging what the service is worth, be not too critical concerning unreasonable rates, require in situations of unlawful discrimination that actual money damage be proved before rates are ordered to be changed. The conclusion cannot be escaped that the railroads must reduce their costs in order to lower their charges. This will have to be done through (a) revision of their capital structures to bring the value of their securities in line with the amount of business they can do and the revenues they can receive therefor, and (b) the railroads must be placed in a position where they can lower their labor costs.

The foregoing is difficult, there will be great opposition to liberalization of railroad regulation; perhaps this will be impossible to do. There will be opposition to revising the capital structures until it is found that there is no other course; in other words, before capital structures will be revised attempts will be made to work out some plan under which the government will guarantee interest on railroad bonds, or government ownership. There will be opposition to revision of wage scales, which, however, will not be so vigorous provided the capital structure revision can be accomplished.

Savings of Co-ordination Offset by Pensions and Other Labor Costs

Consideration of all this certainly indicates that this nation has arrived at a situation out of which there are apparently three paths. The first is to go along with the Federal Co-ordinator, in which event it is plain that the government will assume more and more control over our transportation facilities. The Federal Co-ordinator will order, or will effect without order, consolidation of various facilities and terminals, to the end of reducing railroad costs; in this respect the railroads will become less and less private enterprises, or rather privately operated enterprises; thousands of men will be thrown out of work, the railroads will come to depend more and more upon the government, losing what little control they still have over their rate adjustments, labor relations, etc. To offset any savings that might be made through consolidations, they will be burdened with pensions plans, plans for retirement of superseded employees, etc. As the interest of the government in the railroads increases, stricter and stricter will become the regulation of competing forms of transportation.

The second road out of the situation appears to be this: Railroad traffic of course is at a very low level; if there should be an increase in business, railroad earnings would rapidly increase, their financial condition will improve, and if the Federal Co-ordinator's program has

(*Continued on page 648*)

The Highway Grade Crossing — A National Problem*

Many Separations Are in the Work Relief Program

Changing character of use and demand for economy in expenditure point to necessity for new approach to this question

By Robert H. Ford

Assistant Chief Engineer, Chicago, Rock Island & Pacific, Chicago

THE grade crossing problem has reached the stage where concerted national and state action is required. This is evidenced by the fact that in spite of the hundreds of millions of dollars that have already been expended by federal and state authorities, including contributions from railroads and other agencies, grade crossings are being created by public authority in greater number than they are being separated.

Our highways have now become a vast network of roads, constituting the public highway system. They are controlled, constructed and maintained by an appalling number of duplicating and conflicting agencies.

Grade crossings are extremely irritating sections or portions of these highways. In their essentially scientific aspects, it would appear that the first concern is not whether a crossing should be separated but whether, in the public interest, the particular highway on which the crossing is located should exist at all. If the highway forms a desirable part of an articulated system, the next concern may well be that of determining the possibility for relocation or readjustment, whereby one or possibly more crossings may be closed and grade crossings thus avoided without expensive grade separations.

The Classification of Highways

It has been estimated that there are 60,000 or more highway-railway grade crossings which might ultimately be closed by relocation or some form of proper planning, representing an ultimate capital saving of three to four billions of dollars while adding proportionally to the safety and convenience of public transportation. If, however, these crossings cannot be so treated but are part of the existing system of highways, they should be included in the road improvements program and additional appropriations for federal aid to the states may well be concentrated on this character of construction before any marked additions are made in the program of new road-building.

While excellent work has been undertaken in several states in the classification of highways, the fact remains that in general application, practically nothing has yet been accomplished. Furthermore, it seems unlikely that much can be done until the general problem can be stated in such a way as will cause it to be considered in its broader aspects and especially from the standpoint of coordination between the various forms of interstate and intrastate transportation, as well as the safety and convenience of public travel, irrespective of the mode of transportation.

A Plan Is Needed

That a general comprehensive plan is needed, no one can deny. Neither can there be any question of the desirability of a closer relationship between the agencies of public transportation, or that the plan must be national in its scope and practical of economic application. The logical sequence would then seem to be that federal aid and direction are necessary, the striking need being that through federal direction and support, state highway systems may be suitably co-ordinated in some manner with the railroads to the end that in the public interest they may be operated more safely and efficiently, with an ultimate decrease in the cost of public transportation.

The latest figures of the Interstate Commerce Commission show that there were 235,827 highway-railway grade crossings in the United States. With the exception of a few states, no attempt has been made to classify these crossings with respect to relative hazard or to determine what duplicating crossings can be closed through an improved highway system.

Inability to classify crossings, or in fact to determine their relative location, has doubtless been due in part to incomplete data. Official maps do not show the relative locations of highways and railways. Largely as a result of emergency unemployment legislation, surveys were undertaken in several states for a preliminary classification of highway grade crossings in order that the more important crossings may first be considered for separation or protection. Relative hazards have largely been the basis for these studies, which have included also the trend of the times in the acceleration of traffic and the introduction of streamlined trains. Crossings of high-speed or heavy traffic railway lines are, so far as possible, given special consideration in this classification. These attempts are, however, somewhat sporadic and it will be some time before data of national scope can be made available.

Based upon very incomplete data, and in the absence

* Abstracted from an address before the annual meeting of the American Society of Civil Engineers in New York on January 16.

of better information, a rough classification is about as follows:

Crossings where separations are necessary	30,000
Crossings where protection is necessary	100,000
Unnecessary crossings	60,000
Crossings where minor action only is required	45,827
Total grade crossings in the United States	235,827

Legislation Has Lagged

One of the most effective barriers to the solution of the grade crossing problem has been the failure of legislation to keep pace with the change in conditions brought about by motorized transportation and the consequent development of the modern highway system. It has resulted in the requirement of many public agencies that the railways should continue, as in the past, to assume substantial parts of the cost for grade separation. This demand has been resisted by the railroads.

It has been contended on the one hand that the railways are private transportation agencies and that the authority originally extended to them under the right of eminent domain carries with it perpetual acknowledgment of the necessity to continue to adjust railway facilities when and in whatever way the public interest (defined in many instances by short-sighted policies) demands. The railways have replied that they are private transportation agencies in name only. They have supported their claim with a wealth of statistics and examples to show that they are the largest and essentially the most necessary public agency of transportation, as well as the most ineffectual in their ability to control their own actions as a result of entangling and suppressive legislation.

Against this position, public agencies have urged that the benefits or savings which would accrue to the railroads through reductions in operating expenses should justify substantial allocations for this character of improvements, irrespective of the fact that the railways have had little or nothing to say about the locations selected. The railways point out that the demand for these improvements is caused by changes in public requirements as a result of circumstances beyond the control of any agency, and that furthermore, their own financial difficulties have largely been brought about by the rapid development of these improved highways and that the public itself is responsible for what in many respects is a rival transportation agency, and should provide the funds to complete what it has started.

The railways have furnished statistical information to show that the savings in operating expenses are greatly over-estimated and that claim payments for deaths and injuries comprise a relatively insignificant sum per crossing per year, so that this and other similar items are really of minor consequence in comparison with the total cost of the projects and the great benefits accruing to the public as users of the highways. Attention has of late been called also to the fact that the railroads are without funds, and furthermore, that there is no probability that they will ever have sufficient funds for more than a small part of the cost of so great an undertaking.

The effect of these constantly recurring controversies on the apportionment of costs has served to aggravate the situation in many ways and has increased the difficulties in securing the desired objective, viz., grade crossing elimination. In this connection, Thomas H. MacDonald, chief of the Bureau of Public Roads, has recently stated: "As a fundamental in the extension of safe traffic facilities, there is need for a national program of railroad grade crossing elimination. The theory upon which most state laws are based, of placing a large percentage of the cost upon the railroads, must be discarded. There is no use arguing the equities involved. If there is to be adequate progress in this undertaking, the highway funds will have to bear the major burden of the cost."

The problem of grade separation has now become so pressing that the public is apparently not inclined to wait for long and difficult processes, regardless of the cause. No more is it willing to continue excessive tax burdens for wasteful expenditures which are bound to increase these difficulties by a continuance of systems of road control which have been made antiquated by the revolution in public transportation requirements. The immediate problem appears to be to find a way to attack the grade crossing problem in a practical manner on a broad national front with a minimum of mistakes and a maximum of immediate as well as future benefits.

In this age of motor transportation, it is rather startling to find that, exclusive of city streets, 3,035,986 miles, or 87.8 per cent, of the entire highway mileage of the United States is directed and controlled in much the same primitive manner as it was in early colonial days. While there has been a substantial improvement in methods of road building and maintenance, administrative characteristics for seven-eighths of the highway mileage have remained substantially the same as they were in those early days. As we pass over the splendid system of federal-state highways, which in point of excellence is not surpassed in any country in the world, it seems incredible that a system of public highway control should still prevail that would limit the usefulness of an expert organization, able to produce such a system, to about one-eighth, or 369,537 miles, of the total road mileage of the United States, while the other seven-eighth remains in the hands of miscellaneous and largely duplicating and unco-ordinated authorities.

A national plan for grade separation and related problems is needed, not only in the interest of transportation but for the country as a whole, and it should be sponsored by the federal government. With the single exception of schools, the cost of highway maintenance and operation forms the largest single item of public expense. It has been estimated that approximately 26 per cent of the tax dollar goes for highways. In our political system, one of the most attractive opportunities for substantial tax reductions will be found in the elimination of localized control (at least insofar as it relates to highways) of county and township road units, with their multiplicity of political subdivisions.

State highway commissions should replace all these political subdivisions with respect to construction and maintenance because the state highway commissions have proved to be the best and most effective agencies for this purpose. Similarly, the authority of the public service commissions should be extended over all highways in the state with respect to matters involving public convenience, necessity, and service because the public service commissions are the recognized state agencies on matters connected with intrastate transportation.

Expenditures Are Large

It is difficult to see how there can be elimination of waste and of unwise expenditures in highway building and highway maintenance, or any practical form for co-ordinating transportation, until there is some formative action of this character. The federal government has to date aided the states to the extent of $1,450,000,000 on the federal-state system of highways. This includes $200,000,000 apportioned by the Public Works Administration under the Federal Emergency Act, but does not include $400,000,000 (of which $329,000,000 has now been expended) under the so-called Hayden-Cartwright Bill.

The cost for maintenance or construction of the re-

maining mileage of the improved state highway system is unknown, but for the 11-year period from 1921 to 1932, construction expenditures approximated 15 billion dollars. This amount includes that part of the federal aid disbursements made during that period, approximately $1,100,000,000, but does not include expenditures for city streets or roads outside the state highway system, for which there is no reliable information.

This splendid system of federal-state or state highways is a striking example of what can be accomplished through unified control. It has been developed in the short space of about 20 years, as a result of co-operation between federal and state authorities under the direction of efficient and skillful engineers of the Federal Bureau of Public Roads and the state highway organizations of the several states.

Because of their limited jurisdiction and perspective, local political subdivisions are not in a position to view many of the problems connected with highways, and more especially highway-railway grade separations, as component parts of an interstate or intrastate transportation plan, or even in their possibly wider aspects as an integral part of some more general plan extending beyond the immediate needs of transportation. Their problems are essentially local and with usually limited budgets, it can hardly be expected that the great number of these political subdivisions would assume responsibility for national or even state improvements when they so logically appear to belong to the general public, as represented by federal and state agencies.

The history of the development of the transportation of every country is a history of its advance in wealth and its progress in social and economic development. Transportation has always pioneered and industry has closely followed. In direct proportion as its transportation is steadily and progressively efficient, and in the vanguard of its people, does a country prosper.

Freight Car Loading

WASHINGTON, D. C.

REVENUE freight car loading in the week ended April 13 totaled 587,685 cars, an increase of 42,058 cars as compared with the week before, which included a holiday in the coal mining regions, and also an increase of 7,704 cars as compared with the corresponding week of last year. As compared with last year increases were shown in the loading of coal, ore, and coke, but increases over the previous week were shown in the loading of all commodity classifications except merchandise. The summary, as compiled by the Car Service Division of the Association of American Railroads, follows:

Revenue Freight Car Loading

For Week Ended Saturday, April 13, 1935

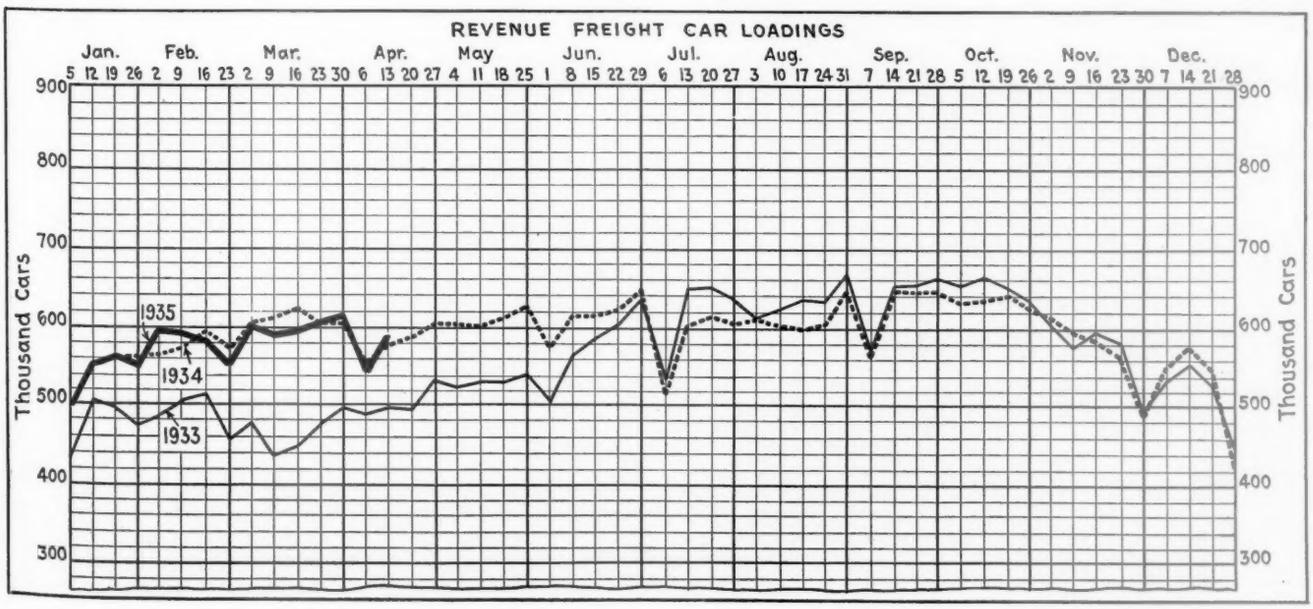
Districts	1935	1934	1933
Eastern	142,213	134,377	111,467
Allegheny	116,414	115,096	89,302
Pocahontas	39,797	42,462	34,312
Southern	86,999	90,268	82,863
Northwestern	70,829	67,208	58,627
Central Western	83,674	82,860	77,546
Southwestern	47,759	47,710	44,065
Total Western Districts	202,262	197,778	180,238
Total All Roads	587,685	579,981	498,182
Commodities			
Grain and Grain Products	27,933	28,815	33,969
Live Stock	12,842	14,994	15,140
Coal	107,837	96,157	80,459
Coke	5,932	5,326	3,209
Forest Products	24,389	24,424	16,960
Ore	7,453	5,811	2,542
Merchandise L.C.L.	161,259	165,759	160,789
Miscellaneous	240,040	238,695	185,114
April 13	587,685	579,981	498,182
April 6	545,627	559,070	492,061
March 30	617,485	610,190	498,356
March 23	607,780	610,036	479,959
March 16	597,432	627,549	453,637
Cumulative Total, 15 Weeks	8,643,993	8,704,219	7,239,538

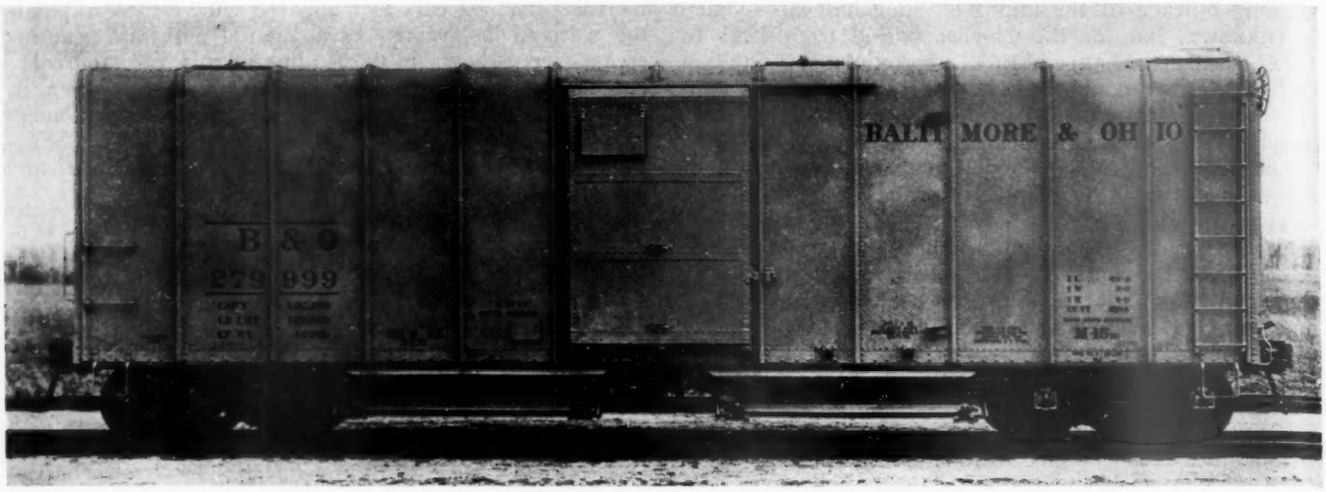
The freight car surplus for the second half of March averaged 300,466 cars, a decrease of 4,677 cars as compared with the number for the first half of the month. The total included 182,996 box cars, 67,367 coal cars, 28,431 stock cars, and 8,283 refrigerator cars.

Car Loading in Canada

Car loadings in Canada for the week ended April 13 totaled 43,556 cars, as against 41,578 last year and 44,173 for the previous week, according to the compilation of the Dominion Bureau of Statistics.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
April 13, 1935	43,556	23,491
April 6, 1935	44,173	23,920
March 30, 1935	43,019	23,420
April 14, 1934	41,578	24,235
Cumulative Totals for Canada:		
April 13, 1935	642,878	343,050
April 14, 1934	612,441	348,617
April 15, 1933	493,305	257,092





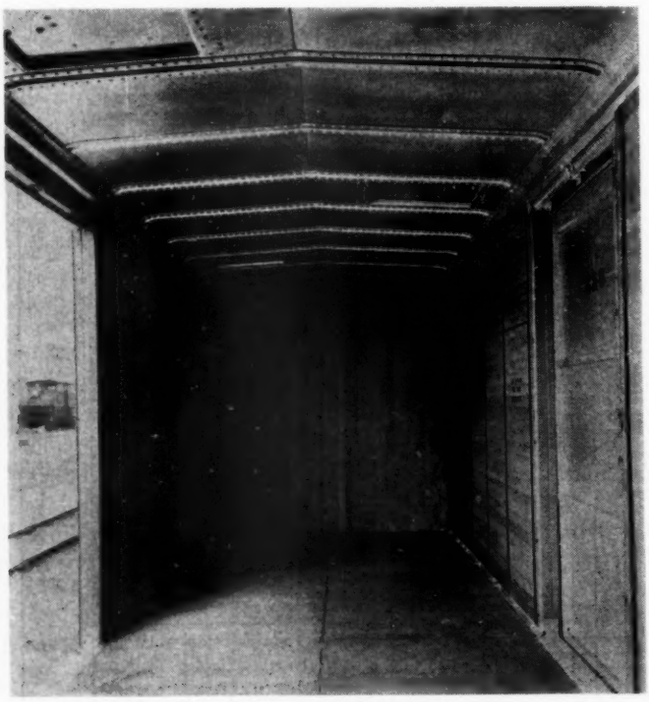
Typical B. & O. Covered-Wagon Box Car with Bottom Hoppers and Roof Doors—Light Weight Is Obtained by the Use of Special Alloy Steels for Superstructure and Underframe

New Freight Cars Developed by the Baltimore & Ohio

Light-weight box and hopper cars constructed of alloy steels and aluminum embody many innovations in design

THIRTEEN new freight cars recently built by the Baltimore & Ohio at its Mount Clare shops, Baltimore, Md., and eight of which were on display at the Union Station, Washington, D. C., April 19 and 20, embody many experimental features which have been developed with the belief that they may in whole or in part point the way to improved construction and greater efficiency and economy.

All the cars are built of new strong or light metal alloys. Generally, therefore, they have unusually high ratios of pay load to tare weight, as will be noted from the table of weights and capacities, and also promise longer life because of the corrosion-resisting properties of the new alloys. All of them also incorporate various new features, some of which are so novel in design and offer such improvements in operating flexibility as to mark a disinct advance in freight-car construction.



Inside View of B. & O. Covered-Wagon Box Car—Hinged Wooden Floor Dropped for Normal Lading—Roof Doors Closed

Weights and Capacities of Baltimore & Ohio Light-Weight Freight Cars

	Road class	Road no.	Capacity, cu.ft.	Light weight, lb.	Load limit, lb.	Pay Load, per cent gross load
Box	M15BA	279,000	3,334	42,700	126,300	74.7
Box	M15BB	279,998	3,264	46,900	122,100	72.3
Box	M15BC	279,999	3,264	46,700	122,300	72.4
Box	M48	366,000	3,390	37,500	98,500	72.5
Box	M49	367,000	3,248	38,400	97,600	71.8
Box	M50	367,100	3,282	34,000	102,000	75.0
Hopper	N28	631,000	2,450	27,700	141,300	83.6
Hopper	N29	632,000	2,394	32,000	137,000	81.1
Hopper	N30	633,000	2,070	31,200	137,800	81.5
Hopper	N30A	633,001	2,070	33,100	135,900	80.4
Hopper	N30A	633,002	2,070	32,900	136,100	80.5
Hopper	N30A	633,003	2,070	33,000	136,000	80.5
Cement	N31	630,200	1,740	35,000	134,000	79.3

Note 1:—All cars are of 100,000-lb. nominal capacity, having axles with 5½-in. by 10-in. journals, except the three box cars of Class M48, M49 and M50, which are of 80,000 lb. nominal capacity, having axles with 5-in. by 9-in. journals.

Note 2:—Cubic capacity of all hopper cars is given for level full.

The extent to which the new metals are used may be indicated by the body construction, consisting vari-

ously of Cor-Ten, A-W 70-90 steel, Plykrome, rustless iron, double-strength steel and aluminum alloy. Some of the box-car bodies are steel sheathed and lined with wood, while one has a Masonite lining. Several of the same alloys as are used in the bodies and also Man-Ten steel are used in the underframes. The following tabulation outlines briefly the types of cars and the new materials used in their construction.

Class M15BA box car, No. 279,000.—Converted from an old 80,000-lb. capacity car by addition of new covered-wagon type, steel-sheathed, wood-lined body.

Class M15BB box car, No. 279,998.—Covered-wagon type, steel-sheathed, wood-lined body with center bottom hoppers discharging inside of the tracks; end hoppers and four roof doors. Center sill of U.S.S. Man-Ten steel and hoppers of U.S.S. Cor-Ten steel.

Class M15BC box car, No. 279,999.—Covered-wagon type, steel-sheathed, wood-lined body with center bottom hoppers discharging outside of the tracks; end hoppers and four roof doors. Center sill of U.S.S. Man-Ten steel and hoppers of U.S.S. Cor-Ten steel.

Class M48 box car, No. 366,000.—Conventional shape body with underframe of U.S.S. Cor-Ten steel.

Class M49 box car, No. 367,000.—Covered-wagon type, copper-bearing—steel-sheathed, wood-lined body. Underframe of U.S.S. Cor-Ten steel.

Class M50 box car, No. 367,100.—Covered-wagon type, corrugated U.S.S. Cor-Ten steel-sheathed body with Masonite lining. Underframe of U.S.S. Man-Ten steel.

Class N28 hopper car, No. 631,000*.—Body and underframe of aluminum alloy. Center and end hoppers.

Class N29 hopper car, No. 632,000.—Body and underframe of U.S.S. Cor-Ten steel, body sheets corrugated. Center and end hoppers.

Class N30 hopper car, No. 633,000.—Body and underframe of U.S.S. Cor-Ten steel, body sheet corrugated. Two center hoppers only.

Class N30A hopper car, No. 633,001.—Body of Plykrome steel, corrugated; underframe of U.S.S. Cor-Ten steel. Two center hoppers only.

Class N30A hopper car, No. 633,002.—Body of rustless iron, corrugated; underframe of U.S.S. Cor-Ten steel, except U.S.S. Man-Ten center sills. Two center hoppers only.

Class No. 30A hopper car, No. 633,003.—Body of Republic double-strength steel, corrugated; underframe of U.S.S. Man-Ten steel. Two center hoppers only.

Class N31 cement car, No. 630,200.—Covered-wagon-top body of Alan Wood 70-90 steel; underframe of U.S.S. Man-Ten steel. Two self-clearing hoppers and eight roof doors.

All the cars are equipped with AB air brakes, high-powered hand brakes and special safety stay-lock couplers. Twelve of them have lateral-motion truck journal boxes in addition to Barber rollers under the bolsters.

* A description of this car was given in the *Railway Age*, August 25, 1934, page 233.

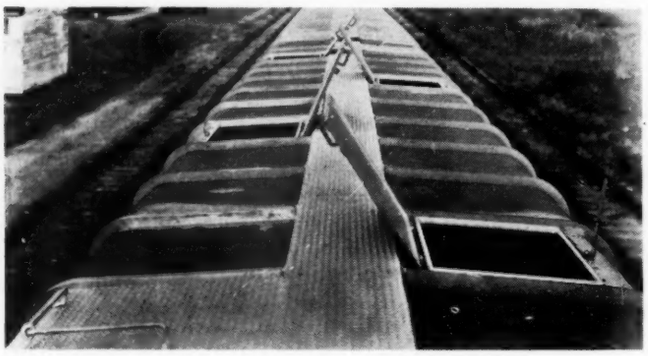
Inside View of B. & O. Covered-Wagon Box Car—Hinged Wooden Floor Raised for Lading to Be Discharged through Bottom Hoppers—Roof Doors Closed

Bulk Cement Car of Covered-Wagon Type

anti-friction self-centering side bearings and bolster-spring stabilizers. Eleven of them have brake slack adjusters and Duryea cushion underframes. The box cars have corrugated metal running boards. Other improvements on various cars consist of improved high-capacity friction draft gears, side-door rear-edge locks and ball-bearing rollers, and bell-crank truck brake levers.

"Covered-Wagon" Cars

The covered-wagon-top box cars offer an interesting innovation in design. In these the side and roof sheets are integral, with an easy curve where the roof and sides meet. In the actual building of a Class M15BA car of this type from a steel underframe wood-body box car that had been shopped for a new body, improvements included a reduction in cost of $100.86 as compared with the rebuilding of the wooden body, reduced tare weight with increased cubical capacity, and an increase in the revenue-carrying capacity from 92,600 lb. to 126,000 lb., or an increase of 36.4 per cent. Other economy factors anticipated are lengthening of the service life of the car, fewer shoppings for repairs at lesser repair costs, and reduction of fire hazards to the car as well as to the lading.



Top View of B. & O. Covered-Wagon Box Car Showing Roof Doors and Metal Running Boards

The covered-wagon box cars are also flexible for lading purposes, being suitable for the economical lading of practically everything, except liquids and unit pieces of such bulk as can not be loaded through the side doors. Doors in the roof provide for lading and under the hinged floors are automatic self-locking hopper doors which provide for quick unloading of bulk materials, either between or outside of the rails.

In the bulk cement car, class N31, shown in one of the illustrations, the covered-wagon type of construction is also employed.

All of these cars have been built for experimental purposes in the belief that they will indicate through actual operation many ways in which freight-car service can be made more efficient and economical. Four of the cars have already been in service for nearly six months.

CHARACTERIZING THE YEAR ENDED MARCH 31, 1934, as "the first year to show some signs of recovery since the world-wide depression had begun to affect the railways," the report of the Railway Board of India for that fiscal period shows that the railways of that country earned a 1933-34 net revenue from operations of $109,630,000, as compared with $99,680,000 for the fiscal year ending March 31, 1933. The 1933-34 gross revenues were $363,450,000, as compared with $351,150,000 in the previous year; operating expenses were, respectively, $253,820,000 and $251,470,000.

An Outside Business View of Railroad Problems

(*Continued from page 642*)

not progressed too far, it is likely that public sentiment will curtail it before it can be carried to its ultimate conclusion. This course is frankly temporizing.

Specific Recommendations

The third course—which is the action recommended by this Committee—is:

A stout declaration that the office of Federal Co-ordinator should not be continued, because while now it is simply an office of recommendation, it would become vested with executive power, without corresponding responsibility. The Co-ordinator probably would pursue a course of theory not backed up by practical experience.

A planned transportation economy for the future is not justified by the experience of the past.

It is not conclusively shown that the Co-ordinator's recommendations will result in actual savings, but if carried out will dismiss numerous employees, burdening relief rolls and bringing serious social unrest.

The consolidations or co-ordinations that he proposes will interfere with business and industry, which are looking to the railroads for service; they will tend to divert industry from the cities upon which the experiments are to be conducted, to smaller localities.

The government should cease aiding the railroads and allow those which must go into receivership to do so and make a new start.

The railroads should be allowed to reduce their costs through adjustment of labor rates and rules.

Regulation of competing forms of transportation should be given a trial.

The country should look to the railroad organizations and the American Association of Railroads for development of rail transportation and for practical economies.

The Interstate Commerce Commission should not be reorganized as suggested by the Co-ordinator.

The recommendations of the Co-ordinator dealing with the bankruptcy act; minimum joint rail-water rates; regulation of water and motor commerce, including provision for the Interstate Commerce Commission to assume control of intrastate rates in case of conflict; including ports and gateways in the protection of section 3; liberalizing the fourth section as advocated by the Co-ordinator—all should be approved.

PROPOSALS FOR THE STANDARDIZATION OF RAILWAY GAGES in Australia, which have been under consideration for several years, are now being further advanced by the commonwealth government as a measure of unemployment relief, according to recent reports received by the United States Department of Commerce. The immediate proposals contemplate the conversion to standard gage of 4 ft. 8½ in. of certain through interstate routes and the conversion of the Victorian and South Australian Railways which are now of 5 ft. 3 in. gage. The report states that the governments of New South Wales and Victoria are not in favor of the plan on the grounds of its cost, but that the federal cabinet has decided to proceed with the construction of the standard-gage line from Port Augusta, the present terminus of the trans-continental railway, to Red Hill, and with the necessary adjustments to the existing railway between Red Hill and Adelaide, to enable Trans-Australian trains to run without break of gage into the Central Railway station at Adelaide.

Car Service Rules Are Not Static*

Constant revision based on actual experience improves handling and makes national car pool unnecessary

By W. B. Kirkland
Superintendent of Transportation, Southern Pacific Company

TOO much stress has been placed on the so-called "car pool." As a matter of fact, there is now a car pool in the common use of equipment as between American railroads, on the definite basis of a charge of $1 a day for the use of each railroad-owned freight car on foreign lines. Discussion of the question of a car pool requires consideration of the transportation needs of the country, and must not be confined merely to the subject of empty car mileage.

There is a question in the minds of most transportation and car service men concerning the value of a car to its owner. The majority favor the thought that a car is worth more to them when it is handling the traffic that is offered efficiently and safely than when it earns the dollar a day that the owner is paid for the use of the car while it is in service on foreign lines. As an example, in following the movements of some S. P. cars of large cubical capacity, which were sent off our line in first-class condition, it was found that a considerable number did not return for 18 months, because there is a limited supply of this class of equipment in the East and Southeast. When these cars were returned, such extensive repairs were required that the per diem received did not cover the cost of restoring them to the condition in which they left the S. P. Of course, in the reciprocal use of cars, the S. P. had the use of some other railroads' equipment, and paid for its hire with the amount that was received for S. P. cars that were off the system lines.

Present Per Diem Profitable?

No holding company, or national organization of any kind, could afford to own and rent freight cars to the railroads at a charge of $1 a day, and expect to earn interest on its investment. The value of a freight car lies in its ability to carry the traffic which the railroad originates. An originating railroad should own sufficient equipment to protect all the local traffic on its rails, and to supply its pro rata share of cars for traffic that is enjoyed in common with other line-haul railroads. No railroad should have equipment in its ownership solely for the purpose of maintaining a credit in its per diem accounts. While that might produce a favorable car-hire balance, it is doubtful if it can bring any real money to the owning line.

A check of railroad-owned freight equipment in the United States during 1931, 1932 and 1933 indicated that all the railroads were carrying surpluses of cars, but a detailed analysis developed that large numbers of cars have not been maintained in condition to handle freight, and are out of service, although not written out of the accounts. The continued reporting of these large surpluses in the national car data has created the false impression that too many cars are owned by American railroads to be productive of the best results in saving empty car mileage.

The possibility of requiring each railroad to set aside a certain number of its cars, in order to reduce the number shown as in active service, has been suggested. In investigating this proposal, it was found that many railroads had already adopted the practice by placing on storage tracks cars which were not required and were not being repaired. This has somewhat upset the normal policy of each railroad, which is to provide sufficient cars for the traffic it originates and shares with other railroads, and has, therefore, affected car-hire balances.

Considerable thought was given to the idea of making an allowance of a certain number of days' free time to permit the placing of a foreign car in position to secure a load to or in the direction of the owning line. However, after careful investigation, it was decided not to adopt any such plan, principally for the reason that it would result in the reclaiming of per diem on cars that were already being used in such traffic, and would penalize the provident railroad which had sufficient cars to protect its interest in interline movements.

Loading Foreign Cars

There has been much discussion about changing the car service rules to penalize a railroad that fails to load a foreign railroad's car when one is available, and instead, in the urge to earn per diem, sends the foreign car home empty and uses its own car for the off-line loading. This is covered by Car Service Rule 1, but the greatest criticism of the present system by the advocates of the so-called "car pool" is directed at the abuse of the word "practicable" as used in this rule, which provides that a railroad shall not use its own cars for the movement of traffic beyond the limits of its rails when the use of other suitable cars under the rules is practicable.

The rule means just what it says concerning the use of the foreign car for off-line loading. A car distributor, yardmaster, conductor, or for that matter any division officer who has charge of the placing of cars for loading and deliberately takes advantage of the word "practicable," is cheating his own railroad. If it is at all practicable, a foreign car should be placed for an off-line load in preference to a system car, first, to avoid sending the foreign car off the line empty, creating unnecessary empty car mileage, and, second, to hold the system car for a local load and avoid the needless expense of conditioning more system cars than the railroad is required to supply for its traffic.

Rules 1 to 6, inclusive, are mandatory rules of the Car Service division of the Association of American Railroads, which each signer of the agreement is bound to observe to the best of his ability, but Rules 1, 2 and 3 deal with the economical distribution of equipment.

Per diem Rule 19 authorizes the board of directors of the Association of American Railroads to appoint a car service division composed of a chairman and the requisite number of members, territorially representative, invested with complete power to suspend or permit departures from car service Rules 1 to 6, inclusive, except that, as provided in per diem Rule 20, any changes

* From an address presented before the Pacific Railway Club at San Francisco, Cal., on April 11, 1935.

affecting Canadian railroad cars on roads of the United States, or cars of United States roads on Canadian railroads, shall be made only by agreement between the Association of American Railroads and the Railway Association of Canada.

All of the car service and per diem rules have been under constant study and review, particularly since the return of the railroads to their owners in 1920 after the World War, jointly by the Committee on Car Service, by the General Committee and the Car Service division of the association, and individually by railway transportation officers. At various times, consideration has been given to the amending of Rule 3-D to prohibit the backhaul of cars to the junctions from which they were received and to make it mandatory that they be kept moving in the direction of the owning road. So far, investigation has developed that such a revision would work a hardship on some railroads, and possibly would be subject to abuse. Nevertheless, it is to be hoped that some improvement will eventually be made in the rules to prohibit the long, circuitous movement of empty cars returning via the route over which they were received under load, when they could be returned by a more direct route, with a comparatively small empty mileage burden on the road on which they were unloaded.

Under per diem Rule 19 there is no emergency that cannot be taken care of by the manager of the Car Service division in allocating equipment, the same as could be done with any form of car pool. In other words, the railroads have subordinated their ownerships to the Car Service division to take care of the traffic of the country as a whole.

The New Plan

Consideration is being given at the present time to an average per diem plan, to determine if it is possible to reduce the empty car mileage. This plan provides that instead of paying $1 a day for each box car, which is the type of equipment thought most desirable for the experiment, a fixed payment will be made for each foreign car received on line during the month, equal to the average amount of per diem paid for all cars of the same ownership during the corresponding months of 1932, 1933 and 1934.

For example, if Union Pacific cars each earned an average of $7 a month while on the Southern Pacific during the Januarys of the three-year period, the S. P. would pay the U. P. $7 for each of the latter's cars received in interchange during January, 1935, and succeeding months of January, regardless of whether the car was held on the S. P. 1 day or 30 days during that particular month. Should the car be held over into February, the average rate for that month would also be paid. The object of the new plan is to encourage the saving of empty car haul by the greater use of foreign cars for off-line loading, and avoid their being hurried off the line in the urge to be relieved of per diem.

Like all other proposals that have been considered, the average per diem plan will, of course, be subject to revision to fit peculiar local situations after it has been in operation for a time, but, as a whole, it is a move in the direction of reducing empty car mileage. If any individual railroad should be unduly penalized, it would have recourse to the association through Rule 19.

The greater part of the empty mileage being made on the railroads is due to the many types of equipment which are "one-way" cars and can be used only to a small extent in both directions, such as refrigerator, tank, stock and logging cars; and to the different classifications of box and automobile cars as to condition. On some railroads there are as many as eight classes, although generally the closed cars are segregated into four groups, according to their fitness to carry the various commodities transported.

Another cause of empty mileage is the unbalanced traffic situation. For example, on the Pacific Coast more high-class commodities are originated than there are cars to protect; and, as a general rule, the majority of the loading eastward is in high-class cars, while the movement westward is largely in cars suitable only for machinery and rough freight. A large amount of empty mileage is made in the distribution of cars from the various districts where they are made empty. There being no loading in the immediate vicinity, it is necessary to distribute the cars further to find loads. Similarly, there are many districts where more cars are originated than are received, and empty cars have to be brought in to accommodate the traffic. For example, it is necessary on the S. P. to move about 60 empty cars north into Oregon from various points on the system to protect each 100 cars loaded out of that territory.

The most elaborate check of car movements ever undertaken was made during the period of December 3 to 16, 1934. This check was for the purpose of finding a way to reduce the mileage to the minimum, and to enable the roads to analyze the statistics that had been presented by the Co-ordinator with his box-car pooling plan.

Various studies have been made in connection with this proposed box-car pool, and railroad men generally are of the opinion that the remedy proposed for the elimination of the alleged unnecessary empty car mileage is too elaborate and expensive to justify the experiment. However, the fact remains that the staff of the Co-ordinator's Section on Car Pooling deserves a great deal of credit for its research work. Many of the criticisms of the methods of car handling warrant careful analysis, even though the estimates of savings possible have been found to be out of line with actual conditions. The proposal of the Section of Car Pooling purports to be a complete plan under which a pooling arrangement may be organized and maintained, and under which cars assigned to the pool may be distributed among participants in the pool. It is claimed that the plan would give equal or better service to shippers and would reduce operating costs to the railroads through a substantial reduction in the amount of empty car mileage, a decrease in the number of car units required and in the cost of car maintenance.

Besides the expense of making a change from the present arrangement, which is automatic in its workings, to one that, in the final analysis, is controlled by a large overhead organization, the major objections of the railroads to the Co-ordinator's plan are:

(1) The movement of empty cars in "fleets," requiring special trains into loading territories on specific orders, instead of the present gradual, day-to-day movement in regular trains.

(2) The necessity of keeping a larger part of the equipment in Class "A" condition, thus increasing the cost of repairing and conditioning cars.

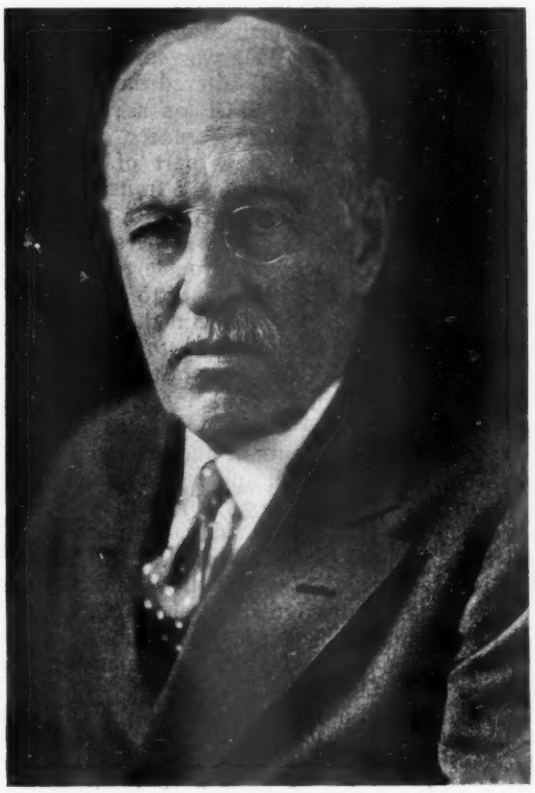
(3) The mileage basis for settlement of repair costs, which would be unfair to some railroads, particularly in the West, where greater mileage is made with less damage to equipment, as compared with other sections of the country where the cars pass through many junction points and are susceptible to more damage by switching.

(4) The necessity for many carriers to purchase considerable equipment that they may have their quota of Class "A" cars for contribution to the pool to protect their traffic, whereas in many cases the supply now in circulation under the present method is adequate.

Atterbury Resigns; Clement Elected President of Pennsylvania

Former had been chief executive since October, 1925, and continues as member of board

GENERAL W. W. ATTERBURY, president of the Pennsylvania since October 1, 1925, has resigned and M. W. Clement, formerly vice-president, and acting president since last July, has been elected to succeed him. The announcement came on April 22 after an organization meeting of the Pennsylvania board of directors at which General Atterbury, who has been in poor health for some time, announced his desire to anticipate his retirement next January under the P.R.R. age rule. He will be 70 years old on January 31, 1936, and would automatically retire at that time. Mr. Clement, who will be 54 next December is one of the youngest presidents the Pennsylvania has ever had.



General W. W. Atterbury

M. W. Clement

The April 24 directors' meeting was the first General Atterbury has attended since last summer, when he underwent an operation from which he has since been convalescing. His associates had been expecting him shortly to resume his duties as president but he told the board that he has long intended to retire and thus, refusing to stand for re-election for the few months remaining for him to serve, he nominated Mr. Clement as his successor. He will, however, continue to serve as a director.

"Mr. Clement," General Attebury said in a statement issued in connection with his retirement "is unquestionably the ablest railroad executive in the country. He has been acting as president of the Pennsylvania since last July. Since October, 1933, when he became vice-president after seven years as vice-president in charge of operation, he has been intimately associated with me in conducting the company's affairs, and in our relations w th other railroads and with the government. The remarkable results achieved by the company last year—one of the most difficult periods the railroad has ever experienced—were largely due to Mr. Clement's leadership. His manifest capabilities have commended him not only to his associate directors and officers, but also to the executives of other railroads with whom he has been working in recent years in the interest of the railroad industry as a whole. Moreover, he enjoyed the confidence, respect and co-operation of the entire Pennsylvania Railroad organization, for they know that many of the improvements in service and operation which the

Pennsylvania Railroad has effected in the last ten years have been due in a large degree to Mr. Clement's advanced thinking on the subject of transportation development."

General Atterbury's Railway Career

General Atterbury has been associated with the Pennsylvania for nearly 49 years and was one of the few railroad presidents of this country who came up through the mechanical department. Commenting on this fact at the time of his election to the presidency the *Railway Age* of October 3, 1925, said: "A line of promotion through the mechanical department and thence the transportation department to the position of executive would be somewhat out of the ordinary on any road. It is particularly out of the ordinary for the Pennsylvania. It is a noteworthy feature of the Pennsylvania organization that in the selection of officers, speaking generally, the tendency has been to give a certain preference to men trained along civil engineering lines. General Atterbury is an exception."

William Wallace Atterbury was born at New Albany, Ind., on January 31, 1866, and spent his boyhood years in Detroit, Mich. He was graduated from Yale University in 1886 with the degree of Bachelor of Philosophy. He entered the service of the Pennsylvania Railroad on October 11 of the same year as an apprentice in the Altoona shops. From 1889 to 1892, he served as assistant road foreman of engines on various divisions of the Pennsylvania and the Philadelphia, Baltimore & Washington. In 1892, he was promoted to assistant engineer of motive power in the Pennsylvania Company, Northwest System. From 1893 to October 26, 1896, he was master mechanic of the Pennsylvania Company at Fort Wayne, Ind. On the latter date, he was promoted to superintendent of motive power of the Pennsylvania Railroad with headquarters at Altoona, and on October 1, 1901, was advanced to the position of general superintendent of motive power of the Pennsylvania Lines East of Pittsburgh and Erie.

General Atterbury's affiliation with the transportation department dates back to January 1, 1903, when he was appointed general manager of the Lines East of Pittsburgh and Erie. On March 24, 1909, he was elected fifth vice-president in charge of transportation and on March 3, 1911, upon a change in the organization, was elected fourth vice-president and a director. The practice of designating the several vice-presidents by number was changed on May 8, 1912, at which time Mr. Atterbury was elected vice-president in charge of operation, his jurisdiction still covering at that time the lines East of Pittsburgh. From May 17, 1916, to June, 1919, he was also president of the American Railway Association.

Recognition of Mr. Atterbury's ability as a transportation officer was particularly signalized by his being requested by Secretary of War Newton D. Baker, shortly after war was declared against Germany, to go to France and assume charge, as director-general of transportation of the American Expeditionary Forces, of the details of organization of the American railway transportation facilities in France. Mr. Atterbury sailed for Europe in August, 1917. On October 5, 1917, he was commissioned a brigadier-general and his appointment as such was confirmed by Congress three days later. General Atterbury returned to the United States on May 31, 1919, after having set up a record of performance for which American railway men have never been called upon to make any apologies. He was made the recipient of the distinguished service medal of the United States, was made a commander of the Legion of Honor by France, a companion of the Most Honorable Order of the Bath by Great Britain, and a commander of the Order of the Crown by Belgium.

Upon the termination of federal control, General Atterbury resumed his duties as vice-president in charge of operation of the Pennsylvania, but this time having jurisdiction over the entire system as a result of the creation of the new plan of organization into regions. He continued in this capacity until November 15, 1924, when he was elected vice-president of the corporation without designation, so that he might act in a more general executive capacity, aiding the president in his administrative duties and acting for the president in his absence. On October 1, 1925, he was elected president to succeed Samuel Rea.

General Atterbury is an honorary member of the American Society of Mechanical Engineers, a member of the American Academy of Political and Social Science and the American Philosophical Society. He has been awarded honorary LL.D. degrees by the University of Pennsylvania (1919), Yale University (1926) and Villa Nova (1927).

M. W. Clement

Martin Withington Clement was born at Sunbury, Pa., on December 5, 1881. He was educated at Trinity College, Hartford, Conn., and entered the service of the Pennsylvania on August 1, 1901, as a rodman in the office of the principal assistant engineer of the United Railroads of New Jersey (now part of the Pennsylvania). He served successively as a transitman and assistant supervisor, and in January, 1910, was promoted to supervisor in the office of the general manager, at Philadelphia. Mr. Clement was transferred to the Manhattan division in June, 1913, and to the Pittsburgh division in December, 1913, to act in the same capacity.

Mr. Clement's next transfer was to the New York, Philadelphia & Norfolk (now part of the Pennsylvania) in December, 1914, as division engineer, and in August, 1916, he returned to the Pennsylvania as division engineer to study improvements in and around New York. He became division engineer under the principal assistant engineer of the New Jersey division in November, 1916, and in June, 1917, was made superintendent of the New York, Philadelphia & Norfolk. In September, 1918, under the United States Railroad Administration, he was promoted to superintendent of freight transportation, Pennsylvania Railroad Eastern Lines, and, four months later, was appointed acting superintendent of passenger transportation.

In March, 1920, upon the return of the railroads to private operation and the inauguration of the regional organization by the Pennsylvania, Mr. Clement was appointed general superintendent of the Lake division, with headquarters at Cleveland, Ohio, retaining that position until March 1, 1923, when he was promoted to general manager of the Central region, with office in Pittsburgh, Pa. He was advanced to the newly created position of assistant vice-president in charge of operation, with headquarters at Philadelphia, in October, 1925, and in September, 1926, was appointed vice-president in charge of operation. In October, 1933, he was appointed vice-president to succeed the late Elisha Lee and in that position he has had general supervision under the president of all departments of the railroad.

Mr. Clement is a director of various subsidiary and affiliated companies of the Pennsylvania, and is also a director of the Pennsylvania Company for Insurance on Lives and Granting Annuities, the Main Line Trust Company, the Railway Express Agency, the Western Union Telegraph Company and the Insurance Company of North America.

Motor Transport Section

Experience Justifies Pennsylvania's Faith in Storedoor Service

First year demonstrates that shippers welcome plan extending railroad responsibility over complete transport job

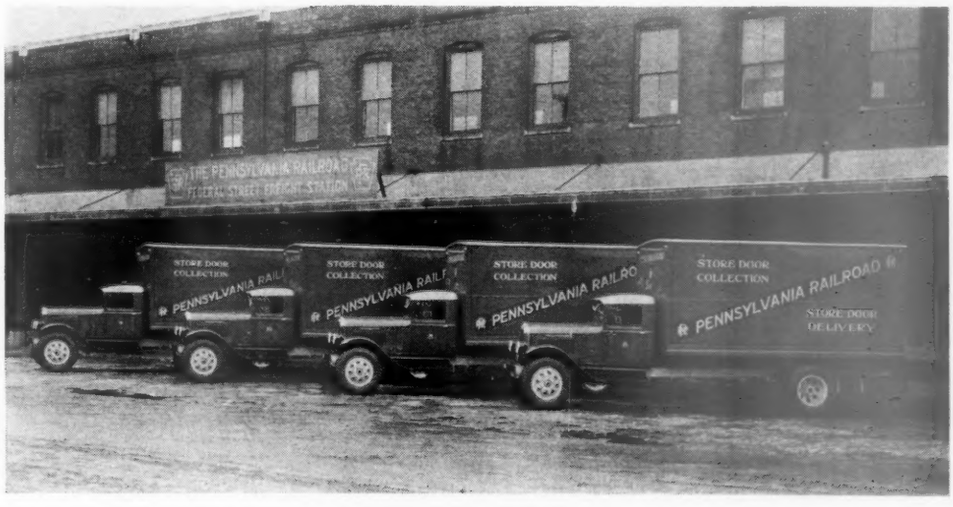
THE first year of its experience with system-wide l.c.l. storedoor pick-up and delivery operations has amply justified the Pennsylvania's faith in the existence of a widespread shipper demand for a complete transportation service under railroad responsibility. Inaugurated originally on December 1, 1933, as an experiment under a one-year tariff, the plan was received throughout 1934 with such increasing enthusiasm that in November a supplement was filed to remove the tariff's December 1 expiration date, thus launching the service as a permanent feature of the Pennsylvania's l.c.l. operations.

In 1934, for the first time since 1925, l.c.l. traffic on the P. R. R. increased over a previous year. A total of 75,000 different patrons employed the collection and delivery service for the handling of 2,643,510 individual l.c.l. shipments or 17½ per cent of last year's l.c.l. business. This represents the culmination of a consistently steady growth throughout the year, both in shipments and in the number of patrons. In January, 1934, at the beginning of operations, for example, 76,484 shipments were handled in collection and delivery service; by the end of April the monthly total was approaching 200,000 while in October more than 300,000 shipments—21 per cent of all l.c.l.—were so billed. In the two closing months of the year the collection and delivery proportion of all l.c.l. exceeded 22 per cent.

The appeal of the storedoor service is not confined to the fact that it is performed at no increase in former station-to-station rates for distances up to 260 miles, thereby bringing to former rail shippers within that zone a reduction in their combined rail and cartage costs. While it is true that a considerable proportion of the collection and delivery business has been short-haul, this proportion is by no means overwhelming; much new business has been attracted and the traffic handled has covered all hauls, including those for which the maximum cartage charge is assessed.

In connection with the latter, Pennsylvania traffic department officers have observed that the demand for faster over-all time is much more in evidence than that for a slightly lower rate. Because some intercity motor truck lines have been able to give faster door-to-door service than is accorded to freight which has to be carted to and from railway freight houses, under independent arrangements made by shippers and consignees, these highway carriers are moving much merchandise at rates higher than rail charges. But with a properly co-ordinated collection and delivery service, the Pennsylvania's carefully checked experience has been that the truck enjoys no superiority over the railway, which latter, being able to operate on the same and oftentimes faster door-to-door schedules, has a further advantage in the competition by reason of its reputation as a reliable and responsible transport agency. Therefore, the tables are now being turned in Pennsylvania territory, for much business now moves in collection and delivery service at rates higher than those quoted by inter-city truckers.

Furthermore, while thus meeting the present-day needs of consignors and consignees in adequate fashion, the storedoor service has at the same time been an important factor in economies which the railroad has recently been

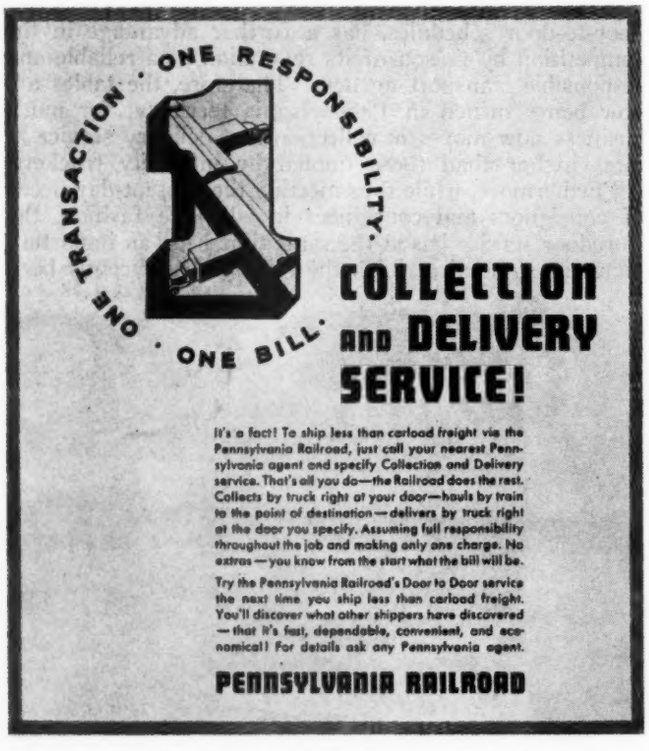


C. & D. Has Permitted the Establishment of Motorized Zones Around On-Rail Freight Concentration Stations and Thus Has Been an Important Factor in Bringing About an Increase in the Average Load Per L.C.L. Box Car

O.K. say shippers
about
DOOR-TO-DOOR SERVICE
on Less-Than-Carload Freight
Collection by truck right at your door . . . transportation by train to the point of destination . . . delivery by truck right at the door you specify! That, in brief, describes the Pennsylvania Railroad's modern door-to-door service on less than carload freight.
"It's O. K." say enthusiastic shippers.
Discover this to your own satisfaction. Just call your nearest Pennsylvania agent—he'll do the rest. From collection through delivery the Railroad assumes full charge and responsibility. And there's only one bill—no extras!
You, too, will find it "O. K." for speed . . . economy . . . and reliability. Any Pennsylvania agent will be glad to tell you all about it.
PENNSYLVANIA RAILROAD

Pennsylvania C. & D. Advertisement Stressing Shipper-Satisfaction with the Service

able to realize in its l.c.l. operations. Most important in this connection has been its influence on a reduction in l.c.l. loss and damage claims and on the increase in the average load per l.c.l. box car. With reference to the former, experience has demonstrated that fewer loss and damage claims are filed in connection with collection and delivery freight than is the case with l.c.l. handled only in station-to-station service. The respective number of claims was shown during a recent test period to be in the ratio of one to three. With railroad responsibility throughout, and contract truckmen bonded, a great many hidden damage claims have been eliminated.


ONE TRANSACTION · ONE RESPONSIBILITY · ONE BILL ·
COLLECTION and DELIVERY SERVICE!
It's a fact! To ship less than carload freight via the Pennsylvania Railroad, just call your nearest Pennsylvania agent and specify Collection and Delivery service. That's all you do—the Railroad does the rest. Collects by truck right at your door—hauls by train to the point of destination—delivers by truck right at the door you specify. Assuming full responsibility throughout the job and making only one charge. No extras—you know from the start what the bill will be.
Try the Pennsylvania Railroad's Door to Door service the next time you ship less than carload freight. You'll discover what other shippers have discovered—that it's fast, dependable, convenient, and economical! For details ask any Pennsylvania agent.
PENNSYLVANIA RAILROAD

Another Display Which Features C. & D. as a Complete Transportation Service Under Railroad Responsibility

The increase—amounting to about 50 per cent—in the average load per l.c.l. box car is not attributed entirely to the collection and delivery service, although the latter is given a substantial share of the credit. The storedoor service, for example, has permitted the establishment of motorized zones around on-rail freight concentration stations to and from which the pick-up and delivery trucks operate. It is in this connection that collection and delivery has had its greatest effect on the heavier loading, but it has in addition influenced the respective extension and advancement of freight station closing and opening hours, which condition has also been favorable to the improvement. Notwithstanding a substantial increase in tonnage during the year 1934, as compared with 1933, there was a marked decrease in the number of cars required to handle the traffic. Even though fewer cars were utilized, direct loading was accomplished to a greater extent than heretofore, with resultant expedition of traffic.

While, as stated at the outset, the Pennsylvania's faith in storedoor service has been amply justified by the results obtained, it should be added that the enthusiastic response of shippers has been due in no small part to the Pennsylvania's disposition to adjust details of the plan to meet the needs of its patrons, and to the thorough-going publicity and educational campaign which has continued since the plan's inception. In connection with the former, initial tariff restrictions have been removed, while the latter is estimated to have been effective in informing 99 per cent of the interested shippers and receivers as to the benefits of the new service. Details on these two aspects of the service's evolution were given in an article entitled "Pennsylvania Sells Storedoor Service" which appeared in the Motor Transport Section of the *Railway Age* of October 27, 1934.

Finally, while the collection and delivery tariff is now published on a permanent basis, the Pennsylvania does not regard the storedoor service as being fixed and unchangeable in any of its operating aspects. Rather, Pennsylvania officers are alive to the desirability of keeping in touch with the requirements of the shipping public, to the end that the railroad may adopt promptly such improved methods as may be found to be mutually profitable—in other words, as a P. R. R. traffic department officer has put it, "to keep abreast, and, if possible, a little ahead of the times."

White to Build Low Priced Indiana Trucks

A NEW streamlined Indiana truck, priced at $695, is announced by the White Motor Co. Delivery of the first units began on March 15. The new model, of 11,000 lb. gross capacity, is designed for general use in the light duty field.

Modern streamline appearance is a feature of the chassis, achieved by the use of deep-skirted fenders, cadmium plated radiator grille, and louvres, and a sedan-type cab. The new truck features a powerful six-cylinder 263 cu. in engine, hydraulic brakes and ventilated disc wheels.

L. c. l. Traffic Increased by S. P. Transport Company

THE Southern Pacific Transport Company, merchandise-handling subsidiary of the Southern Pacific (Texas Lines) had the biggest month in its four years' history in October, 1934, and, for the year, showed a 29.1 per cent increase in merchandise handled over the preceding year. Increases were as high as 70.4 per cent in some months. The percentage of increase in pounds of freight waybilled in 1934, by months, was as follows:

January	60.8 per cent	July	16.4 per cent
February	70.4 " "	August	23.1 " "
March	61.1 " "	September	26.7 " "
April	29.7 " "	October	22.2 " "
May	10.1 " "	November	20.2 " "
June	29.6 " "	December	10.2 " "

The transport company handles for the railroad merchandise that moves intrastate in Texas, on which pick-up and delivery service is desired, and is a party with the Missouri, Kansas & Texas Transportation Company, the Missouri Pacific Transportation Company, the Texas & Pacific Motor Transport Company and two electric lines in a joint tariff providing for collection and delivery service in intrastate interchange traffic with these lines. In addition, in accordance with orders of the Texas Railroad Commission, all railway lines are required to interchange with the Southern Pacific and other rail-transport companies.

The Southern Pacific Transport Company itself owns 5 trucks and has contracts with 200 agents who own 425 trucks used in this merchandise-handling service, both for collection and delivery and for a few selected inter-city hauls. The basic principle of the operations is to move the merchandise by box car to provide speed, economy and flexibility, and to use trucks to complete the door-to-door service. With this idea in mind, fast overnight merchandise train service is provided, serving all stations, on such runs, for example, as between Houston and Port Arthur, 105 miles; Houston and San Antonio, 210 miles; Houston and Shreveport, 220 miles; and Houston and Dallas, 265 miles.

One of the S. P.-Owned Trucks Used in Inter-City Service

Contract Trucks at the Houston Freight Station

The organization of the Southern Pacific Transport Company differs from most railway subsidiary operations in that a separate skeleton organization of supervisory forces is wholly employed by the transport company while the solicitation and rate-making are handled by joint employees of the railway and transport companies. Likewise, the railroad agents are also agents for the transport company, the exclusive supervisory employees of the latter being used to direct the work of these joint officers and employees.

By establishing the transport company with a separate supervisory organization, it was felt that more efficient operation could be obtained, and the results since the formation have justified this viewpoint.

Truck Traffic Analysis in Kansas

IN connection with the Kansas port-of-entry law, a description of which has appeared previously in these columns, the Kansas state planning board has made the first complete survey of the traffic being handled by interstate trucks. In order to obtain what it considers a fair cross-section of the annual business handled, a study of the commodities handled was made on inbound and trans-state movements for the month of May, 1934, and on outbound movements for the month of December, 1934.

The commodities were grouped under five general

headings, and the results of the study were as follows:

	May, 1934		Dec. 1934	
	Inbound Tons	Transtate Tons	Outbound Tons	Total Tons
Agricultural Products (not processed)	18,200	4,900	24,000	47,100
Agricultural Products (Processed)	5,100	1,600	3,300	10,000
Mineral Products (Gas, Oil, Salt)	10,200	900	32,000	43,100
General Merchandise	19,000	11,200	3,000	33,200
Miscellaneous	18,700	8,000	4,000	30,700
	71,200	26,600	66,300	164,100

These figures do not include the trucking from Kansas City, Kan., on the state line, into Missouri.

The totals of the inbound and trans-state shipments during May, and the outbound shipments during December are presumed to represent a normal month's interstate traffic handled by trucks, which total may be estimated as between four and five thousand carloads, if the shipments had been handled by rail.

The number of trucks passing the ports of entry during the year was 597,000, on which tax receipts amounted to $605,000, as compared with $330,000 in 1933, before the port-of-entry law was made effective.

New Terminal for Pennsylvania Greyhound

WORK was started on February 18 on the construction of a new $125,000 terminal for the Pennsylvania Greyhound Lines in New York City, which will extend through from Thirty-Third to Thirty-Fourth streets, between Seventh and Eighth avenues. The new station will occupy the site of the old terminal, which has been used by the company for several years. When completed, it will be one of the most modern and up-to-date structures of its kind in the United States. Completion date has been set for June 1. A temporary structure has been erected on one side of the ground for use of passengers and station employees during the construction of the new building.

The new building, two stories in height, will be constructed of terra cotta and glass, will be of modern design, and will house the usual terminal facilities and concessions, including ticket and information desks, baggage and parcel check rooms, men's and ladies' rest rooms, cigar and news-stand, restaurant, travel bureau, and a waiting room of ample size, with comfortable benches for passengers. The company's offices will be on the second floor.

Off-street loading, as in the past, will accommodate approximately 20 buses at once through a stagger plan of eight loading platforms for parked buses. The loading and unloading platforms for passengers will be covered, the roof being used for transferring baggage to the top of the buses. A freight elevator will transfer the baggage from the street level to the roof of the loading platform.

Under present plans, buses will enter the terminal from Thirty-third street, as in the past, with the driveway extending through the block to an exit on Thirty-fourth street. Passengers will enter the new terminal direct from Thirty-fourth street.

The new station was made necessary for the efficient handling of passengers and company business in New York, where 750,000 people make use of the Pennsylvania Greyhound terminal facilities annually. Its erection is also in keeping with the general expansion program of this company. This is the second new terminal to be erected in a year, the other being in Baltimore. The Pennsylvania Greyhound Lines also participated in the renovating and rebuilding of the St. Louis terminal, and, at the present time, the company is expending approximately $100,000 in the construction of a new garage at Washington, D. C. Immediate plans of the company call for participation in the erection of new terminals at Detroit and Toledo.

Fifty Greyhound schedules make use of the Pennsylvania-Greyhound terminal in New York daily, providing service to all points in the United States, Canada and Mexico, through direct connections at other terminal points. A number of other bus companies will use the new terminal, including the Jersey Central Transportation Co. and the New England Transportation Co. In all, more than 250 buses will arrive at and depart from the new terminal daily.

The A. J. Turton Co., New York, has the contract for the erection of the building. Thomas W. Lamb, Inc., are the architects.

Architect's Drawing of the New Bus Terminal

Communications . . .

The Fascination Factor

FONTANA, CAL.

TO THE EDITOR:

Have noted with considerable interest your March 9 and April 6 issues. The response to the editorial, Locomotives, Cars, and Public Relations, definitely shows the need for more frequent displays of equipment.

While it would be foolish to expect everyone who inspects a display train to immediately buy a ticket, yet everyone who "goes in," walking leisurely, having time to consider interior refinements, will certainly talk about it, creating curiosity among those who did not "go in."

You have a good appreciation of the fact that rail lines must not forget, and must make use of—the fascination factor.

H. C. TIMMONDS.

Railings on Bridges

CHESHIRE, CONN.

TO THE EDITOR:

I was much interested in your summary of the reactions to your editorial which you published on April 6, "Locomotives, Cars and Public Relations." As one of the "fans" may I add a small suggestion? The railroads which I know best have a general policy of using high board fences as railings on street bridges over their lines in towns and cities. This often entirely cuts off any view of the tracks or passing trains below. I am sure that others would, like myself, have their interest continually aroused and refreshed if they could look over, or through, a better designed type of railing while they are crossing the tracks in their ordinary pursuits. The railroads at present seem to be trying to prevent any view of their operations!

JOHN W. HASTIE.

What About War?

CHICAGO.

TO THE EDITOR:

While again "mulling over" your marvelous issue of December 1, 1934, a suggestion has come into my mind which I bring to your attention.

Your issue presents in masterly fashion the nation's industrial need of railway prosperity. What about war? Of course, we are in reverse gear as regards any call to arms. Also, of course, anything other than defensive war is unthinkable. Restrict the thought then to the possible necessity for defense. Where do we stand?

I opine that we do not stand. We are supine. We have never, so far as I know, built a mile of highway over which it would be feasible to transport the enormous wheel loads of artillery units. The only notably fortified U. S. waterway is the Panama canal. Ask any 10 men you meet on what method of transport the nation would depend in case of war and their unanimous reply would be "the railways." There is no other answer.

Doubtless we are in urgent need of military automotive highways such as saved Paris, but our existing network of railroads would be the backbone of the nation from a military transportation point of view. Whose duty is it to so maintain these facilities as to enable the railroads to carry munitions, supplies and troops efficiently? What is required beyond peace-time standards? What of the risk, say, of existing deferred maintenance? How shall we prepare for defense, if at all? The question then answers itself, in my opinion, yet why has no comprehensive move been made towards preparation?

This thought is an old one with me, but merely thinking of it gets no one anywhere. I wonder why the subject seems to be taboo. It would seem that some one should bring it to the attention of the proper authorities who, I suppose, must have had it in mind from time to time without getting anywhere. I understand that even Germany was obliged to strengthen its military highways and highway bridges after the war started. Whenever I learn of a railroad being taken up, I wonder whether it may not again be needed in a hurry some time and the old question reasserts itself—what are we going to do about it?

RAILROAD OFFICER.

Guffey Bill Condemned

WASHINGTON, D. C.

TO THE EDITOR:

There has been introduced in the Senate by Senator Guffey of Pennsylvania a bill (S.2481) the purpose of which is stated to be "* * * to stabilize the bituminous coal mining industry." The Senate Committee on Interstate Commerce has reported the bill with the recommendation that it be passed. I am one of a committee appointed by the Smokeless Coal Operators in Virginia and West Virginia to oppose this bill and I am writing you to point out that its enactment would have far-reaching consequences in raising the price of coal to all consumers and would constitute an invasion by the federal government of control of private industry unprecedented even in the light of the legislation of the last two years.

The Guffey bill goes far beyond the normal scope of government regulation and far beyond the government control involved in the existing codes established under NRA. Under the name of a "Code," the Guffey bill in effect establishes in the coal industry—one not hitherto regarded as a public utility—a vast government controlled monopoly. It creates a monopoly because it provides for the limitation of the total coal production of the nation and the allocation of production quotas among the various districts of the industry and the various mines in each district, all under the ultimate control of a National Bituminous Coal Commission. It is monopolistic because it forbids the opening of new mines or mines not operated since 1929, except after application to the National Commission. It provides for the fixing of prices for coal by district boards of coal producers under control of the National Commission. It exempts the members of the "Code" from the anti-trust laws.

The bill confers an immense power upon a single national labor organization, namely that organization which can obtain a bare majority of the labor of the industry. It provides that agreements as to minimum wages and maximum hours of labor made by a labor union which represents more than one-half of the employees of the industry shall be binding upon all of the employees, whether or not they may prefer to be represented by any other labor union. Labor representatives on the district boards must be "elected by the national organization of employees representing the preponderant number of employees in the industry."

The bill coerces all present producers to join the "Code" by imposing a drastic 25 per cent tax upon those producers who do not join (those producers who do join the "Code" will have 99 per cent of the tax refunded to them), by directing the United States Government and all of its departments and agencies to boycott all coal producers who do not join, and by forbidding producers who do not join from using the mails or other means of communication in disposing of coal or engaging in interstate transactions.

To strengthen the monopoly, the bill proposes the federal expenditure of an initial $300,000,000 for the purchase of coal mines and properties to be withdrawn by the government from competition.

If you concur in my opinion that the enactment of the Guffey bill would constitute a vast invasion by the federal government of private industry and a dangerous precedent in our economic system, and that in the long run its monopolistic provisions cannot fail to increase to all consumers the price of our most important fuel, I urge that you immediately communicate your views to your Senators and Representatives in the Congress at Washington.

JAMES WALTER CARTER.

NEWS

"Average" Settlement for Box Cars Effective May 1

Pelley announces the inauguration of "frozen per diem" plan for all roads

John J. Pelley, president of the Association of American Railroads has announced that on next Wednesday, May 1, there will be placed into effect the "average" plan of settlement for the use of box cars as between all railroads.

Each railroad, under this plan, also called sometimes the "frozen per diem" plan, in settling balances due other railroads for the use of box cars, will compute the amount due on a basis of monthly averages, rather than the actual number of days such car is held.

The problem is to remove the incentive, or "per diem urge," for the movement of a foreign car off the line empty to save car rental, when, if held for a longer period, a load might be available, and thereby avoid empty mileage. This average car rental plan is adopted for that purpose. It has been in effect for several years among some of the railroads, where it has worked entirely satisfactorily in reducing car movements and empty car mileage.

The "average" plan of per diem payments contemplates that each railroad will pay for the use of cars of other railroads an amount equivalent to the average detention of the cars of each other railroad on its line in the same month of the years 1932, 1933 and 1934, regardless of how long the car may be held, thus affording every opportunity to load the car, if possible, instead of moving it off the line empty. Likewise, under this plan, the principles of individual ownership and the responsibility of the individual railroads to the shippers on their lines for providing an adequate car supply are maintained.

The plan has been in effect for some time between the Pennsylvania and the New York, New Haven & Hartford, and also between the New Haven and the Boston & Maine, and between the Boston & Maine and the Maine Central and Bangor & Aroostook. It has been under consideration by the railroad association for several months as a partial substitute for the car pooling plan recommended by Co-ordinator Eastman's Section of Transportation Service.

New Haven Trains Faster

The New York, New Haven & Hartford's timetable which becomes effective with the advent of Daylight Saving Time on April 28, will show substantially all of its trains except those operated jointly with the Pennsylvania over the Hell Gate bridge, are to be scheduled one hour earlier; numerous runs, both long and short, will be made somewhat faster. Trains between New York and Pittsfield will in some cases be run through in 20 min. less time. The "Naragansett" night train between New York and Boston, taken off last fall, will resume its trips. On the line between Providence, R. I., and Bristol, zone fares are to be reduced from 10 cents to 5 cents, and additional trains will be put on.

California Train Limit Bill Vetoed

Governor Frank F. Merriam, of California, on April 18 vetoed a bill limiting the length of freight trains to 70 cars.

Another Kentucky Colonel

Governor Ruby Laffoon of Kentucky, has appointed James G. Lyne, financial and public relations editor of the *Railway Age*, a member of the Honorable Order of Kentucky Colonels.

Emergency Rates to Drouth Area Extended

Reduced railroad rates on livestock feed for the drouth areas have been extended 31 days, or to May 31, and the special rates on the movement of livestock in the drouth region, in effect last summer, will be restored by western carriers.

Grain Rates Postponed

The Interstate Commerce Commission has again postponed to July 1 the effective date of its order in the western grain rate structure investigation prescribing a general revision in rates on grain and grain products in the western district. The effective date had been postponed from April 1 to June 1. The rates are to be made effective on 15 days' notice.

Restricted Truck - Competitive Rates Suspended

The Interstate Commerce Commission on April 17 suspended several tariff schedules published by the Atchison, Topeka & Santa Fe, the Chicago, Burlington & Quincy, and others, proposing to restrict certain commodity rates, applicable between points in western territory, which were published to meet motor truck competition. The restriction is stated in a provision that the rates were to be applicable only on traffic having origin and destination as shown and not as basing rates on traffic originating at or destined to points beyond.

President Favors Single Transportation Commission

Planning to send long-promised transport message to Congress in a couple of weeks

President Roosevelt is planning to send to Congress his long-promised message on the subject of transportation regulation legislation in a couple of weeks, he stated at his press conference on April 19, and he has not changed the thought expressed in his Salt Lake City speech in September, 1932, that regulation of all forms of transportation should be concentrated in a single commission. His idea on this subject has been repeated on several occasions, particularly in his message to Congress at the opening of the session in January, but it was brought forward again by a question inspired by the fact that bills were introduced in Congress last week to create a new commission to regulate water transportation.

The President recognizes that many of those interested in special forms of transportation would prefer to have special commissions but he still feels that the better principle would be to co-ordinate regulation under a single commission that could consider the various transportation agencies in relation to each other. As to whether the Interstate Commerce Commission should be reorganized for its enlarged duties by statutory direction, as proposed in one of Co-ordinator Eastman's bills, or whether the commission should be allowed to reorganize itself, the President indicated no particular preference. Chairman Rayburn, of the House committee on interstate commerce, has given him the view that the commission has sufficiently broad powers under the present law to reorganize itself with divisions for various functions.

Now that the Senate has passed the motor-carrier bill it is believed that the President may delay his message further until the House has passed the bill, which would give him an opportunity to discuss the question of bringing inland waterway transportation also within the commission's jurisdiction and other phases of the Co-ordinator's legislative program.

The sub-committee of the House committee on interstate and foreign commerce which has been considering the motor carrier bill, headed by Representative Huddleston, began consideration on April 23 of the bill in the form it was passed by the Senate last week, but as the full committee was engaged with the holding company bill it was not expected that the bill

would be brought before it for several days.

The House committee on merchant marine has announced that hearings will begin on May 7 on the Eastman water carrier bill, on which hearings have been held before the Senate committee on interstate commerce. A sub-committee of the House committee on interstate and foreign commerce is also planning to have hearings at some early date on the Pettengill fourth section bill but the date has not yet been definitely determined. An erroneous report had gained circulation that the hearing was to be held beginning on April 18. The sub-committee of the Senate committee on interstate commerce to which the bills on the program of the Railway Labor Executives' Association had been referred, headed by Senator Lonergan, had tentatively arranged for a hearing on April 29 on the six-hour day bill but the hearing was subsequently postponed to a later date.

The Senate committee on audit and control of contingent expenses, to which was referred Senator Wheeler's resolution for a general investigation of railroad financing, with an appropriation of $10,000 for the purpose, considered the resolution at a meeting on April 24 but some of the members were inclined to think that its terms were too broad. As a result the committee decided to call Co-ordinator Eastman before it on April 29 to discuss the necessity for such an investigation.

Chester H. Gray, Washington Representative of the American Farm Bureau Federation, speaking over an N. B. C. network from Washington, on April 24, appealed for a nation-wide protest to Congress against pending legislation which he said "proposes to so coordinate transportation as to increase the freight bill of the nation." The pending legislation to which he referred is the Eastman bill passed last week by the Senate.

"This measure" he said, "authorizes the Interstate Commerce Commission to have control not only of railroad transport, which it has too severely regulated for more than a decade, but of motor transport also. Only one conclusion can be derived from lodging in a single federal agency, like the Interstate Commerce Commission, the control and regulation of two or more methods of transport. That conclusion is that sooner or later the commission will place the different agencies under its control on such a practical equality of rates and services that there will be no competition; that freight rates will increase on all methods of transport to the level of the highest cost method of transport; that the citizen will lose the transportation benefits from their vast expenditures for highways and waterways, to say nothing of lesser expenditures in more recent years for airways; and finally that a yardstick of rates will be adopted by the commission which will penalize all of us who ship our products, or buy our supplies owing to higher freight rates."

Extend C. and D. Service in Canada

As a further experiment on the part of Canadian railways to meet competition of highway freight transportation, the Canadian Pacific and the Canadian National have announced another extension of freight pick-up and delivery service in eastern Canada.

Extension of the service will be made to all points from Toronto east to Quebec and Megantic and west and east of Toronto for any distances up to 375 miles.

As in the present tariff in force in western Ontario, the new rates will provide for a complete transportation service, including the cost of collection and delivery.

The railways will use cartage agencies already in existence, thus avoiding any capital expenditure in the acquiring of new facilities.

German Railways Extended Motor Operations in 1934

The substitution of motor truck for rail services was considerably extended by the German railways during 1934, according to recent reports received by the United States Department of Commerce. Last year 1,127 trucks and 492 trailers were employed in these co-ordinated operations. The number of bus lines operated in conjunction with the German post office department totaled 115 at the close of last year, the report further shows. Also at that time the railroad was operating 11 bus lines on its own account and 12 in cooperation with other operators.

Would Public Allow "Undemocratic" Rail Set-up?

This writer has more than once pointed out that the controversy on government ownership of railroads finally boils down to one simple thing or question, namely, the capacity of a government to do an efficient job. That is a question not of theory, but of fact at a time and a place. Before the War, the Prussian State Railways were operated well—better than were government-operated railroads anywhere else in the world. The French and Italian state lines were notoriously inefficient, the Swiss railways somewhat better, the Australian system almost incredibly bad, but the Japanese lines more nearly approached the Prussian standard. The secret of the comparative success in Germany and Japan was not unknown. Their success was due to the highly centralized control, complete insulation from what we call politics, and a tradition of semi-military organization and discipline.

From which a solid generalization can be drawn. For a governmental operation of railroads to approach the best private practice, the direction must be extremely centralized, absolutely independent and untrammeled, anything but "democratic" in character, and it must have a continuity of policy.

If there be a "public opinion" in any country of the world less disposed than is our own to permit a governmental operation of railroads by a board of trustees, which should have an "absolutely free hand" and be immune from "the domination or control of political branches of the Government," [the writer] would much like to know where it may be found.

From an article by Thomas F. Woodlock in the Wall Street Journal.

Club Meetings

The Toronto (Ont.) Railway Club will hold its next meeting at the Royal York Hotel, Toronto, on Friday evening, May 3. A. R. Walker (Illinois Central) will present a paper on air conditioning passenger cars.

The Car Foreman's Association of Omaha, etc., will hold its next meeting at the Union Pacific shops, Council Bluffs, on Thursday, May 9. L. S. Payne (Union Pacific) will present a paper on dismantling freight car equipment. The election of officers will take place at this meeting.

The New England Railroad Club will hold its next meeting at the Copley-Plaza Hotel, Boston, on Tuesday evening, May 14. This will be the annual banquet and entertainment.

The Car Foremen's Association of Chicago will hold its next meeting at the La Salle Hotel, on May 13. There will be a discussion on the preparation and maintenance of passenger equipment in high-speed service.

Harrison Elected Chairman Railway Labor Executives' Association

George M. Harrison, president of the Brotherhood of Railway Clerks, has been elected chairman of the Railway Labor Executives' Association. He has been acting chairman of the association since last July.

Illinois Commission Suspends Switching Rate Increase

The 10 per cent increase in switching rates in the Chicago district approved by the Interstate Commerce Commission and announced to become effective on April 18 has been suspended by the Illinois Commerce Commission as to intrastate traffic. The commission also suspended some of the freight rate surcharges applying on intrastate shipments, including those on coal moving to Alton and East St. Louis from southern Illinois and the Belleville group of mines and on hollow building tile moving from Sheffield, Ill., to Chicago.

Associated Traffic Clubs Meeting

The semi-annual meeting of the Associated Traffic Clubs of America will be held at Virginia Beach, Va., on May 7-8, the Norfolk-Portsmouth Traffic Club acting as host. The three major subjects to be given consideration are "The Internal Organization of the Interstate Commerce Commission," "Some Aspects of the Traffic Trend," and "Transportation Legislation." Addresses on these subjects will be given by Karl Knox Gartner, former attorney and examiner of the Interstate Commerce Commission; Joseph R. Warner, counselor and former executive of the Bankers Trust Company of New York; and Sam Rayburn, chairman of the com-

mittee on Interstate and Foreign Commerce of the House of Representatives. In addition to the addresses by these speakers, committee reports will be presented and a portion of the program will be devoted to the discussion of traffic club problems and activities.

Saving for Travel

A convenient plan whereby prospective patrons may save money in anticipation of making railroad journeys has been instituted by the Great Western of Great Britain. The patron, upon application at a G. W. R. ticket office, is given a "Travel Savings Card" upon which there are spaces for 20 postage stamps. When this card has been filled with six-penny stamps it is accepted by the G. W. R. as payment for a railway ticket and any difference between the price of the ticket and the value of the stamp card is adjusted in cash. The savings plan is available to purchasers of every class of ticket and has been tried out with success at a few places in South Wales.

New Haven Plans "Hiking Trains"

The New York, New Haven & Hartford is considering the operation of a so-called "hiking train" during the summer months which would allow city residents to spend a day or week-end of recreation in New England. The announcement of the plan, which will be modeled after the successful "snow train," operated during the Winter months for skiing devotees, was made public in letters sent by the company to users of the Winter trains. The letter, signed by R. H. Pusch, general passenger agent, contained a questionnaire asking for information on the operation of the proposed trains.

Asserting that "the operation of the train and its destination will be predicated on the replies we receive," the following questions were asked:

What months do you prefer to make hiking trips? Where in New England do you prefer to make hiking trips? Do you prefer Saturday trips? Do you prefer Sunday trips? Do you prefer week-end trips, going Saturday afternoon, returning Monday, a. m.?

L. N. E. Train to Commemorate King George's Jubilee

The London & North Eastern of Great Britain will commemorate the twenty-fifth anniversary of King George's coronation with the inauguration of a new high-speed streamlined train to be called the "Silver Jubilee." The train will operate between London and Newcastle on a 4-hr. schedule for the 268 mi. The Silver Jubilee will consist of first and third class coaches and a dining car and will have capacity for 194 passengers. A slight extra fare will be charged. The coaches will be built on the articulated principle and the entire train, including the locomotive, will be fully streamlined. The fact that the train will be hauled by a steam locomotive is cited in an announcement of the Associated British Railways, Inc., New York, as "evidence that the British railways have faith in the ability of steam to cope with all immediate demands for high speeds." The announcement further states that trains such as the Silver Jubilee will become a permanent feature of L. N. E. services if there is sufficient demand for such.

Barge Lines Object to Evidence on Waterway Costs

Barge lines operating on the Mississippi and Ohio rivers object to having the Interstate Commerce Commission read evidence relating to the cost to the government of construction and improvement work on the waterways over which they operate. The Inland Waterways Corporation, the Mississippi Valley Barge Line, and the Mississippi Valley Association have joined in a motion filed with the commission asking to have eliminated from the record of the commission's proceeding of investigation of joint rail and barge rates testimony submitted at the New Orleans hearing by C. K. Smith, research engineer for the Western Association of Railway Executives, showing the cost to the government of construction and maintenance for each ton and ton-mile of freight for each division of the inland waterways over which they operate. The testimony was challenged at the time of the hearing but objection was overruled by Examiner Howell. Elmer A. Smith, of counsel for the railroads at the hearing, in explaining the purpose of the testimony, said that obviously the actual transportation cost of operating barges was only one factor in the total cost and that it was desired to show the "hidden costs" as relevant in a proceeding dealing with the relationship between rail and water rates. Counsel for the barge lines objected on the ground that such information was more appropriate for Congress than for the commission.

Net Deficit for January, $21,990,622

Class I railroads in January had a net deficit after fixed charges, depreciation and retirements of $21,990,622, as compared with $11,585,335 in January, 1934, according to the Interstate Commerce Commission's compilation of selected income and balance-sheet items. Before depreciation and retirements the net deficit was $5,862,581. Total current assets at the end of the month amounted to $1,021,295,795, while the total current liabilities were $1,421,395,692, including $310,608,852 of matured interest unpaid and $276,804,723 of matured funded debt unpaid. The commission's summary follows:

Selected Income and Balance-Sheet Items of Class I Steam Railways

Compiled from 143 reports (Form IBS) representing 149 steam railways

TOTALS FOR THE UNITED STATES (ALL REGIONS)

For the month of January 1935	For the month of January 1934		Income Items	For the .... months of 1935	For the .... months of 1934
$21,346,932	$31,058,279	1.	Net railway operating income		
12,576,840	13,738,086	2.	Other income		
33,923,772	44,796,365	3.	Total income		
10,925,344	10,953,346	4.	Rent for leased roads		
43,524,062	43,628,714	5.	Interest deductions		
1,464,988	1,799,640	6.	Other deductions	(No cumulations)	
55,914,394	56,381,700	7.	Total deductions		
d 21,990,622	*d* 11,585,335	8.	Net income: 8-01 After depreciation and retirements		
d 5,862,581	4,345,111		8-02. Before depreciation and retirements		
		9.	Dividend declarations (from income and surplus):		
2,489,759	2,982,470		9-01. On common stock		
442,222	442,222		9.02. On preferred stock		

BALANCE-SHEET ITEMS

		Balance at end of January 1935	Balance at end of January 1934
	Selected Asset Items		
10.	Investments in stocks, bonds, etc., other than those of affiliated companies (Total, Account 707)	$793,377,053	$742,674,131
11.	Cash	311,947,757	282,960,580
12.	Demand loans and deposits	12,566,696	37,520,766
13.	Time drafts and deposits	32,424,656	45,030,472
14.	Special deposits	64,053,863	35,833,969
15.	Loans and bills receivable	5,413,485	7,971,310
16.	Traffic and car-service balances receivable	52,878,257	52,218,282
17.	Net balance receivable from agents and conductors	43,270,290	39,893,727
18.	Miscellaneous accounts receivable	145,865,403	136,860,243
19.	Materials and supplies	297,005,383	293,963,534
20.	Interest and dividends receivable	42,558,765	38,033,669
21.	Rents receivable	2,702,725	1,637,190
22.	Other current assets	10,608,515	6,251,297
23.	Total current assets (items 11 to 22)	1,021,295,795	978,175,039
	Selected Liability Items		
24.	Funded debt maturing within 6 months*	$215,462,933	$266,335,139
25.	Loans and bills payable†	323,124,497	336,180,126
26.	Traffic and car-service balances payable	66,348,760	65,115,041
27.	Audited accounts and wages payable	199,988,352	199,187,341
28.	Miscellaneous accounts payable	76,113,255	43,660,537
29.	Interest matured unpaid	310,608,852	226,272,269
30.	Dividends matured unpaid	8,795,363	8,389,375
31.	Funded debt matured unpaid	276,804,723	108,723,300
32.	Unmatured dividends declared	6,124,667	12,358,570
33.	Unmatured interest accrued	104,175,001	106,710,450
34.	Unmatured rents accrued	26,190,860	25,259,996
35.	Other current liabilities	23,121,362	15,419,859
36.	Total current liabilities (items 25 to 35)	1,421,395,692	1,147,276,864
37.	Tax liability (Account 771): 37-01. U. S. Government taxes	34,250,849	32,938,955
	37-02. Other than U. S. Government taxes	125,913,970	135,786,601

* Includes payments which will become due on account of principal of long-term debt (other than that in Account 764, Funded debt matured unpaid) within 6 months after close of month of report.
†Includes obligations which mature less than 2 years after date of issue.
d Deficit.

Continued on next left-hand page

Operating Revenues and Operating Expenses of Class I Steam Railways in the United States

Compiled From 145 Monthly Reports of Revenues and Expenses Representing 149 Class I Steam Railways

FOR THE MONTH OF FEBRUARY, 1935 AND 1934

Item	United States		Eastern District		Southern District		Western District	
	1935	1934	1935	1934	1935	1934	1935	1934
Average number of miles operated	238,069	239,436	59,002	59,164	45,279	45,473	133,788	134,799
Revenues:								
Freight	$206,023,650	$201,679,290	$94,300,649	$90,269,115	$42,391,167	$43,271,912	$69,331,834	$68,138,263
Passenger	27,264,445	25,377,027	16,015,590	15,409,980	4,373,441	4,007,738	6,875,414	5,959,309
Mail	7,034,722	7,184,304	2,679,666	2,773,307	1,242,306	1,264,554	3,112,750	3,146,443
Express	3,325,735	3,682,649	1,166,228	1,429,687	971,080	967,690	1,188,427	1,285,272
All other transportation	5,969,666	5,574,514	3,095,842	2,970,785	638,695	586,411	2,235,129	2,017,318
Incidental	4,814,993	4,466,896	2,691,706	2,469,631	813,293	724,168	1,309,994	1,273,097
Joint facility—Cr.	743,586	666,741	233,098	218,395	151,230	147,351	359,258	300,995
Joint facility—Dr.	236,750	174,181	84,835	51,513	16,536	17,246	135,379	105,422
Railway operating revenues	254,940,047	248,457,240	120,097,944	115,489,387	50,564,676	50,952,578	84,277,427	82,015,275
Expenses:								
Maintenance of way and structures	25,552,828	25,125,783	10,183,157	10,899,250	5,962,889	5,311,420	9,406,782	8,915,113
Maintenance of equipment†	53,048,519	50,533,268	24,236,868	23,190,834	10,078,616	9,616,461	18,733,095	17,725,973
Traffic	7,298,509	7,097,199	2,774,932	2,718,349	1,441,726	1,382,631	3,081,851	2,996,219
Transportation	97,412,063	92,049,397	46,558,639	45,127,051	16,542,321	15,555,054	34,311,103	31,367,292
Miscellaneous operations	2,310,585	2,105,513	1,138,183	1,059,952	352,052	302,108	820,350	743,453
General	c 14,668,551	e 11,826,779	6,259,530	5,205,162	2,324,904	1,984,848	6,084,117	4,636,769
Transportation for investments—Cr.	187,812	132,155	39,464	30,158	20,744	8,913	127,604	93,084
Railway operating expenses	200,103,243	188,605,784	91,111,785	88,170,440	36,681,764	34,143,609	72,309,694	66,291,735
Net revenue from railway operations	54,836,804	59,851,456	28,986,159	27,318,947	13,882,912	16,808,969	11,967,733	15,723,540
Railway tax accruals	19,811,397	20,434,674	8,004,475	8,203,952	4,238,027	4,229,761	7,568,895	8,000,961
Uncollectible railway revenues	64,249	85,463	25,141	37,828	15,587	20,320	23,521	27,315
Railway operating income	34,961,158	39,331,319	20,956,543	19,077,167	9,629,298	12,558,888	4,375,317	7,695,264
Equipment rents—Dr. balance	6,395,703	6,856,510	3,411,499	3,442,143	153,261	582,732	2,830,943	2,831,635
Joint facility rent—Dr. balance	2,845,535	3,054,032	1,653,566	1,634,636	224,497	369,244	967,472	1,050,152
Net railway operating income	25,719,920	29,420,777	15,891,478	14,000,388	9,251,540	11,606,912	576,902	3,813,477
Ratio of expenses to revenues (per cent)	78.49	75.91	75.86	76.35	72.54	67.01	85.80	80.83
† Includes:								
Depreciation	15,893,367	15,353,477	6,820,123	6,745,126	3,146,430	2,947,424	5,926,814	5,660,927
Retirements	85,622	303,792	31,034	56,597	19,095	111,028	35,493	136,167
Maintenance of equipment before depreciation and retirements	37,069,530	34,875,999	17,385,651	16,389,111	6,913,091	6,558,009	12,770,788	11,928,879
Net railway operating income before depreciation and retirements	41,698,909	45,078,046	22,742,635	20,802,111	12,417,065	14,665,364	6,539,209	9,610,571

FOR TWO MONTHS ENDED WITH FEBRUARY, 1935 AND 1934

Average number of miles operated	238,142	239,466	59,004	59,167	45,287	45,486	133,851	134,813
Revenues:								
Freight	$417,032,335	$410,465,130	$189,875,506	$182,633,437	$84,801,775	$86,592,340	$142,355,054	$141,239,353
Passenger	57,713,832	52,576,079	34,201,191	32,191,190	8,780,688	7,693,877	14,731,953	12,691,012
Mail	14,631,661	14,830,084	5,578,411	5,743,864	2,620,623	2,620,908	6,432,627	6,465,312
Express	6,288,695	6,730,721	2,181,682	2,607,618	1,741,224	1,787,376	2,365,789	2,335,727
All other transportation	12,167,029	11,407,455	6,303,108	6,091,915	1,237,877	1,127,680	4,626,044	4,187,860
Incidental	10,179,830	9,411,543	5,660,012	5,227,682	1,683,208	1,485,748	2,836,610	2,698,113
Joint facility—Cr.	1,567,369	1,412,467	504,105	463,995	307,665	301,478	755,599	646,994
Joint facility—Dr.	424,876	361,722	134,923	101,374	33,674	31,331	256,279	229,017
Railway operating revenues	519,155,875	506,471,757	244,169,092	234,858,327	101,139,386	101,578,076	173,847,397	170,035,354
Expenses:								
Maintenance of way and structures	53,238,160	50,289,865	21,869,646	21,031,916	11,833,533	10,901,186	19,534,981	18,356,763
Maintenance of equipment*	108,259,924	103,228,890	48,977,175	47,522,334	20,744,829	19,413,308	38,537,920	36,293,248
Traffic	14,915,670	14,388,394	5,584,372	5,454,197	3,037,220	2,829,014	6,294,078	6,105,183
Transportation	201,975,463	188,353,914	95,614,118	90,857,258	34,080,848	31,679,703	72,280,497	65,816,953
Miscellaneous operations	4,878,941	4,293,354	2,400,235	2,173,719	708,739	587,157	1,769,967	1,532,478
General	a 30,159,212	b 24,196,461	12,825,577	10,607,732	4,754,828	4,083,349	12,578,807	9,505,380
Transportation for investments—Cr.	349,343	278,871	71,976	71,164	47,883	23,810	229,484	183,897
Railway operating expenses	413,078,027	384,472,007	187,199,147	177,575,992	75,112,114	69,469,907	150,766,766	137,426,108
Net revenue from railway operations	106,077,848	121,999,750	56,969,945	57,282,335	26,027,272	32,108,169	23,080,631	32,609,246
Railway tax accruals	39,700,706	41,069,948	15,957,112	16,415,034	8,476,928	8,481,704	15,266,666	16,173,210
Uncollectible railway revenues	145,670	191,938	60,614	98,418	24,226	40,646	60,830	52,874
Railway operating income	66,231,472	80,737,864	40,952,219	40,768,883	17,526,118	23,585,819	7,753,135	16,383,162
Equipment rents—Dr. balance	13,343,957	14,294,392	6,943,473	7,002,409	437,133	1,217,685	5,963,351	6,074,298
Joint facility rent—Dr. balance	5,840,504	5,964,419	3,380,365	3,288,316	530,576	699,007	1,929,563	1,977,096
Net railway operating income	47,047,011	60,479,053	30,628,381	30,478,158	16,558,409	21,669,127	d 139,779	8,331,768
Ratio of expenses to revenues (per cent)	79.57	75.91	76.67	75.61	74.27	68.39	86.72	80.82
* Includes:								
Depreciation	31,949,751	30,998,957	13,772,879	13,583,761	6,320,812	5,878,862	11,856,060	11,536,334
Retirements	157,342	591,911	57,505	215,129	43,873	209,452	55,964	167,330
Maintenance of equipment before depreciation and retirements	76,152,831	71,638,022	35,146,791	33,723,444	14,380,144	13,324,994	26,625,896	24,589,584
Net railway operating income before depreciation and retirements	79,154,104	92,069,921	44,458,765	44,277,048	22,923,094	27,757,441	11,772,245	20,035,432

a Includes accruals on account of pensions, as follows: Under Federal Retirement Act, $5,379,638; under previously existing plan, $5,803,572, but excludes pension accruals held in suspense and not charged to operating expenses.

b Includes accruals on account of pensions, under previously existing plan, $5,812,643.

c Includes accruals on account of pensions, as follows: Under Federal Retirement Act, $2,554,529; under previously existing plan, $2,884,499, but excludes pension accruals held in suspense and not charged to operating expenses.

d Deficit or other reverse items.

e Includes accruals on account of pensions, under previously existing plan, $2,910,849.

Compiled by the Bureau of Statistics, Interstate Commerce Commission. Subject to Revision.

N. & W. Completes Rail-Renewal Project

The Norfolk & Western has recently completed its largest rail renewal project of the past 20 years. The program involved the laying of 130 mi. of track on the Radford and Shenandoah divisions with 131-lb. rail, at a cost of approximately $2,500,000. Completion of the job provides the N. & W. with a uniform main line of heavy track over a distance of approximately 1,100 mi., and brings to a close a program started in 1919. All of the railway's main-line track, between Norfolk, Va., and Cincinnati, Ohio, and Columbus has been laid with 130- or 131-lb. rail.

The Pennsylvania's Holiday Traffic

The Pennsylvania reports that for the five days, April 17-21, the passenger traffic on its Eastern lines was decidedly larger than during the Easter holidays of one year ago, the total number of passengers carried between New York and Washington being 72,809, an increase over last year of 27 per cent. Passengers on trains entering and leaving Pennsylvania station, New York, totaled for the five days 176,059, an increase of 23,359 over the Easter holidays last year. Between New York and Atlantic City, the holiday increase was 20 per cent.

The company ran innumerable extra trains, including trainloads of sightseers bound for Washington from Albany, Syracuse, Boston and other points off the company's lines.

The "400" Now Requires Six Cars

During the first three weeks of April, the number of passengers carried by the "400" of the Chicago & North Western has continued to average between 150 and 175 a day each way. During January, February and March, the total number of passengers carried was 28,000, or 160 per trip. At Easter, more than 200 passengers rode on this train each way.

This train is made up of standard weight cars differing from those previously in service only in that the train was completely air-conditioned and decorated a little more elaborately. Planned as a four-car train, the "400" has been operated steadily as a six-car train and has, on certain occasions, such as over Easter Sunday, consisted of seven cars. It is composed of two coaches, a full-size dining car, a parlor lounge car with fountain service and two de luxe parlor cars.

On April 28, one-half hour will be cut from the running time between Chicago and St. Paul, the train then making the 408.6 miles in 390 min. Under its new schedule, the train will continue to make stops each way at Milwaukee, Adams and Eau Claire.

Col. Anderson Favors Continuing Office of Co-ordinator

Indicating his dissent from the official attitude of the Association of American Railroads, Col. Henry W. Anderson, co-receiver of the Seaboard Air Line, in a recent address before the Richmond (Va.) Traffic Club, went on record in favor of continuing the office of federal co-ordinator of transportation now held by Joseph B. Eastman. Col. Anderson, while he called for the enactment of federal legislation to bring about equitable conditions in the transport field, declared at the same time that the railroads must "demonstrate that they are capable of running their business or the Government will run it for them."

He pointed out how the railway executives have grown up in an atmosphere in which they had the transport field virtually to themselves, adding that they now have a real problem with new competition to face. Each new agency of transport, he continued, has its place in the picture and for that reason they should come under the regulation of the Interstate Commerce Commission in order that a co-ordinated transportation system may be developed to the point of highest efficiency.

Grade Crossing Division to be Created for Bureau of Public Roads

It is proposed to create a special Grade Crossing Elimination Division in the Bureau of Public Roads, Department of Agriculture, to supervise the grade crossing elimination work provided for in the $4,000,000,000 work-relief program of the federal government, the President announced on April 24. The President had previously announced the appointment of Frank C. Walker, executive director of the National Emergency Council, to head an organization which is to consider all applications for allotments from the four billion dollar fund and another board was to be appointed to make the actual allotments for projects which have been cleared through Mr. Walker's organization. Existing agencies of the government will supervise most classes of projects for work-relief but it was found necessary to create three new ones, including that for grade-crossing elimination. After the general allotment for grade crossings has been made the law requires that it be apportioned to the states by the Secretary of Agriculture.

New Equipment

New freight cars installed by the Class I railroads totaled 568 in the first three months of 1935, according to reports received by the Association of American Railroads. In the same period last year 231 new freight cars were placed in service, and in the same period two years ago there were 577. Twelve new steam locomotives and 30 new electric locomotives were placed in service in the first three months of this year. The railroads, in the first three months of 1934, installed no new steam locomotives, but six new electric locomotives. New freight cars on order on April 1 totaled 482, compared with 6,512 on the same day in 1934 and 1,873 on the same day in 1933.

The railroads on April 1 this year had on order one new steam locomotive and 61 new electric locomotives. New steam locomotives on order on April 1, 1934, totaled 21, and on the same date in 1933 there were three. New electric locomotives on order on April 1, 1934, totaled 103. No reports are available as to the number on order on April 1, 1933. Freight cars and locomotives leased or otherwise acquired are not included in the above figures.

Canadian Equipment Measure Amended

Before the public works unemployment relief bill could be passed in the House of Commons certain changes in that part which provides government aid to the railways for the purchase of equipment were moved by Hon. Robert J. Manion, Minister of Railways, and they will be dealt with when Parliament reassembles on May 20. The effect of the principal amendment will be that where it is found impossible to arrange for the equipment by guarantees, if through arrangement between the railways and the government, the government chooses to purchase the equipment and turn it over to the railway companies on a lien back to the government, it can do so.

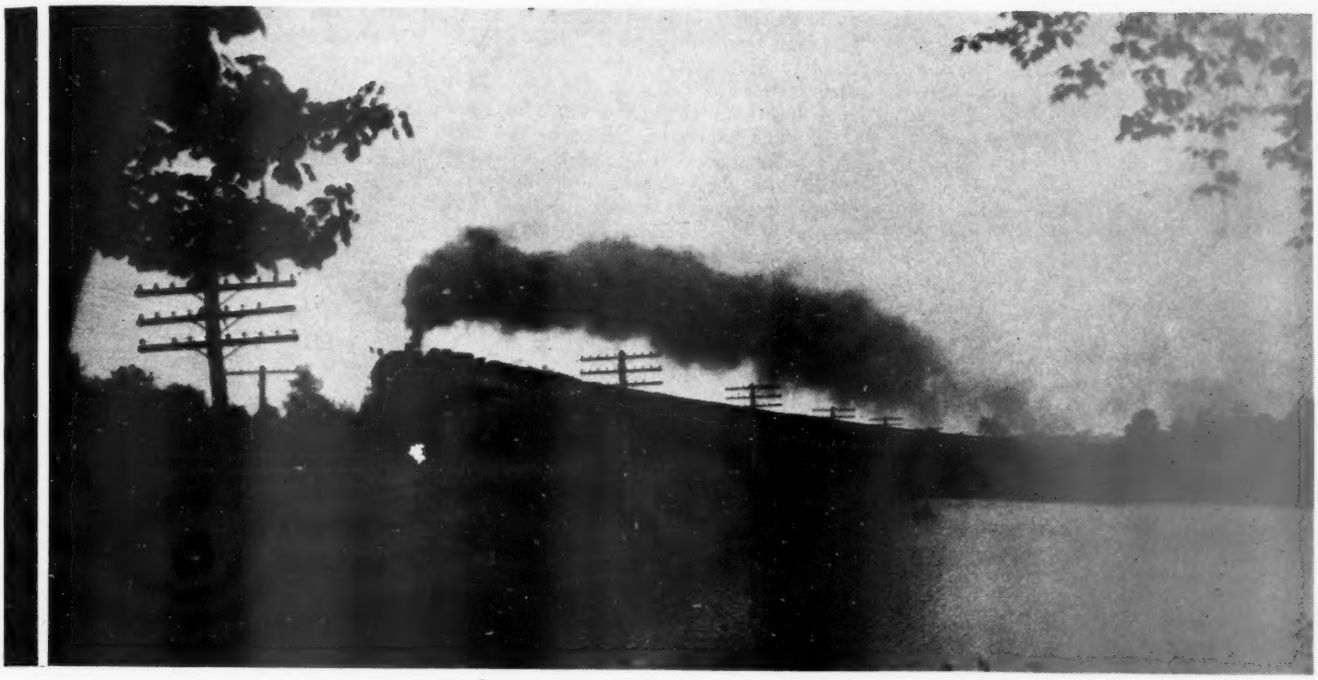
Ross W. Gray, for the Liberal minority, tried unsuccessfully to amend the bill so that "(a) those most in need and available shall have first benefits from the employment to be created; (b) preference shall be given to unemployed and needy ex-service men and to unemployed and needy married men with dependents; (c) in no case shall discrimination be made in the employment of any person by reason of political affiliation, race, or religious views; (d) where such works or undertakings are of a local character and the expenditure involved does not exceed $25,000, all persons employed shall be residents of the locality in which the work is to be performed; (e) it shall be the duty of the minister concerned to see that the provisions of this section are complied with and, in respect of works or undertakings done under contract, he shall be entitled to cancel the contracts forthwith in the event of any breach of such provisions by the contractor."

A total of $1,000,000 for elimination of railway grade crossings was also asked by the government in the public works unemployment relief bill. One feature of the grade crossing elimination plan was presented during debate by Hon. John C. Elliott, a prominent Liberal member, who urged that more attention be paid to removing dangerous crossings in rural areas rather than in the metropolitan districts, if unemployment relief was the chief aim, for in the towns and cities gates and men were employed in guarding the crossings.

Broadway to Be 17-Hr. Train; Other P. R. R. and N. Y. C. Schedules Cut

The Pennsylvania's Broadway Limited will be operated in both directions between New York and Chicago on a 17-hr. schedule when the new timetables become effective with the inauguration of Daylight Saving Time on April 28. This reduction of 45 min. from the Broadway's present scredule of 17¾ hrs. will keep its running time the same as that of the New York Central's Twentieth Century Limited which latter, as announced in the *Railway Age* of April 13, is being similarly expedited. At the same time the New York-Chicago special service charge on both of these

Continued on next left-hand page



FORESIGHT

Foresight in the design and equipment of motive power will make records for you and money for your road.

Lima has available facts about the steam locomotive that you will find valuable in the selection and operation of new motive power.

LIMA LOCOMOTIVE WORKS INCORPORATED

LIMA LOCOMOTIVE WORKS INCORPORATED
LIMA OHIO

trains will be reduced from $10 to $7.50. This reduction has been authorized by the Interstate Commerce Commission along with proportional reductions to and from intermediate stations, effective on April 28, on one day's notice.

The Broadway's new schedule calls for its daily departure from New York at 5:15, Daylight Saving Time, and its arrival in Chicago at 9:15 a. m.; eastbound it will leave Chicago at 3:15 p. m., arriving in New York at 9:15 a. m.

Eighteen other Pennsylvania trains between New York and the West will have their schedules materially shortened. The Golden Arrow will leave New York at 5:20 p. m. Daylight Saving Time and reach Chicago before noon; and the Manhattan Limited, leaving at 7:10 p. m., will reach Chicago at 1:30 p.m. A new train leaving Chicago at 1 p. m., will run through to New York in 19 hrs., arriving at 9 a. m. Daylight Saving Time. The Cincinnati Limited, eastbound, will reach New York at 9:05 a. m., 30 min. better than heretofore. The American, New York to St. Louis, will start at 7:05 p. m. and arrive in St. Louis at 4 p.m.

The Congressional Limited will run from New York to Washington in 3 hrs. 55 min., becoming the fastest regular train ever operated between the two cities. This time will be 20 min. less than at present and will average nearly 60 m.p.h. for the 224 miles, including stops. Nineteen other trains between New York and Washington will make the run each day in 4 hrs. 20 min. or less. Between the hours of 7 a. m. and 8 p. m., 31 trains altogether will be speeded up an average of 15 min. per train or better.

Practically all the hourly trains running between New York and Philadelphia, starting from each city on the even hour, will be scheduled through at 1 hr. 45 min. for the 91 miles.

The New York Central, in addition to the Twentieth Century Limited, as before announced, will speed up a number of other trains, the Commodore Vanderbilt's running time eastbound is to be cut 1 hr. 45 min., or to 18 hrs. 20 min., and westbound 25 min., or to 18 hrs. 55 min.; the Wolverine, eastbound reduced 1 hr. to 19 hrs.; the Lake Shore Limited, westbound, 55 min. faster; the Mohawk, westbound, 50 min.; and the Southwestern Limited, New York to St. Louis, to go through in 23 hrs., or 20 min. better than at present. The Empire State Express, now in its forty-fifth year, is to be run from New York to Buffalo in 8 hr. 15 min.

Carrier's Liability; Receipt Issued for Goods Not Received

A carrier which issues order bills of lading marked "shipper's load and count" at a time when the cars were not loaded, when the freight was not paid and when it had received neither the goods nor any order from the shipper to deliver them, but had merely placed the cars for loading, was held liable to a bank which negotiated the bills, the goods never being loaded and the shipper becoming bankrupt. This is the decision of the Eighth Circuit Court of Appeals in Chicago & N. W. v. Stephens National Bank, 75 F. (2d.) 398.

The essential facts of this case are as follows: Two "order notify" bills of lading were presented by the shipper to the carrier's agent at Fremont, Neb., each covering 400 cases of eggs destined to New York. The bills were signed by the carrier's agent, endorsed by the shipper, and negotiated at the plaintiff's bank for $2,600. Before presenting the bills to the agent, the shipper had ordered cars and these were iced by the carrier and placed for loading at the shipper's warehouse. The shipper had actually contracted for the eggs to be loaded into these cars; but when the eggs arrived at its warehouse it was unable to pay for them. The cars were never loaded nor the freight paid.

The court said that there was nothing actually fraudulent in the issuance of these bills by the carrier, and it was following a custom with respect to this shipper which, for eleven years, had caused no loss to anyone. The shipper, however, had no right to receive the bills when they were issued, and the carrier, by issuing them when it did, enabled the shipper to defraud the bank. The representations in the bills as to the contents of the cars, by virtue of the notation "shipper's load and count" were those of the shipper. The other representations, however, as to seals, prepayment of freight and receipt of the cars for transportation, were those of the carrier, and they were not true when made, nor did they ever become true.

Prior to the enactment of the Federal Bills of Lading Act, the court said, it would have been held that in such a case as this the carrier had done nothing to enable the shipper to impose upon the bank, because the carrier's agent who signed the bills of lading was without authority to issue them until the goods had been actually received. But section 22 of the Bills of Lading Act has enlarged the agent's implied authority by imposing a new liability on the principal for the agent's act in issuing the bill, even though the merchandise was not received.

On the principle that where one of two innocent parties must suffer by the fraud of another, the loss should fall upon him who enabled the third person to commit the fraud, the court concluded that, as between the bank and the carrier, the carrier must bear the loss caused by the shipper's fraud.

Although it did not affect the ultimate decision of the case, the court rejected the contention of the bank that under section 21 of the act the carrier is only relieved of liability where it is true that "goods were loaded by the shipper," and since it was not true that goods were loaded by the shipper the carrier could not escape liability. The court held that if the effect of section 21 is to preserve to the carrier the defense of non-receipt of goods where the loading of the cars is done by the shipper and where the bills of lading are marked "shipper's load and count," the defense is preserved to the carrier both in cases where there is a partial failure to load and in cases where there is a complete failure to load. "To hold otherwise would be to compel the railroads, for their own protection, to make inspections of all cars loaded, or purported to have been loaded, by shippers, before such bills are issued, the delay and expense of which Congress evidently desired to permit the railroads to escape." Judgment for the bank in the Federal District Court for Nebraska was affirmed.

Hearings on Reorganization Bill

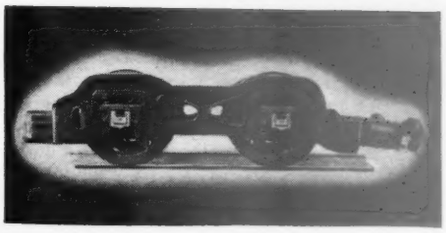
Hearings before the House judiciary committee on the bill recommended by Co-ordinator Eastman to amend the railroad bankruptcy law in a way intended to facilitate railroad reorganizations were continued this week. R. V. Fletcher, general counsel of the Association of American Railroads, said he was not hostile to the bill but desired to offer some suggestions he believed would improve it. He said the railroads were greatly concerned with the problem of prompt reorganization of such railroads as find it necessary to go into bankruptcy and that he thought the co-ordinator and his counsel, Leslie Craven, had done excellent work in suggesting a number of important amendments to the present act. For one thing, he thought that claimants or creditors who desire to file a petition to have a railroad declared bankrupt should be required first to obtain the consent of the Interstate Commerce Commission. He also thought it ought to be discretionary with the court as to whether any trustees outside the railroad management should be appointed, and that there is more or less "electioneering" to get on the I. C. C. panel of trustees from which appointments are to be made by the courts. Another point was in criticism of the requirement that the compensation of officers of the railroad in proceedings under the law should be subject to the commission's approval. Mr. Fletcher also urged a simplification of the procedure under Section 77, to reduce to a minimum the passing back and forth of a reorganization plan between the commission and a court, and he said the bill would be better if it allowed the stockholders to have a voice as to whether they would approve or disapprove a plan, without reference to any determination of insolvency.

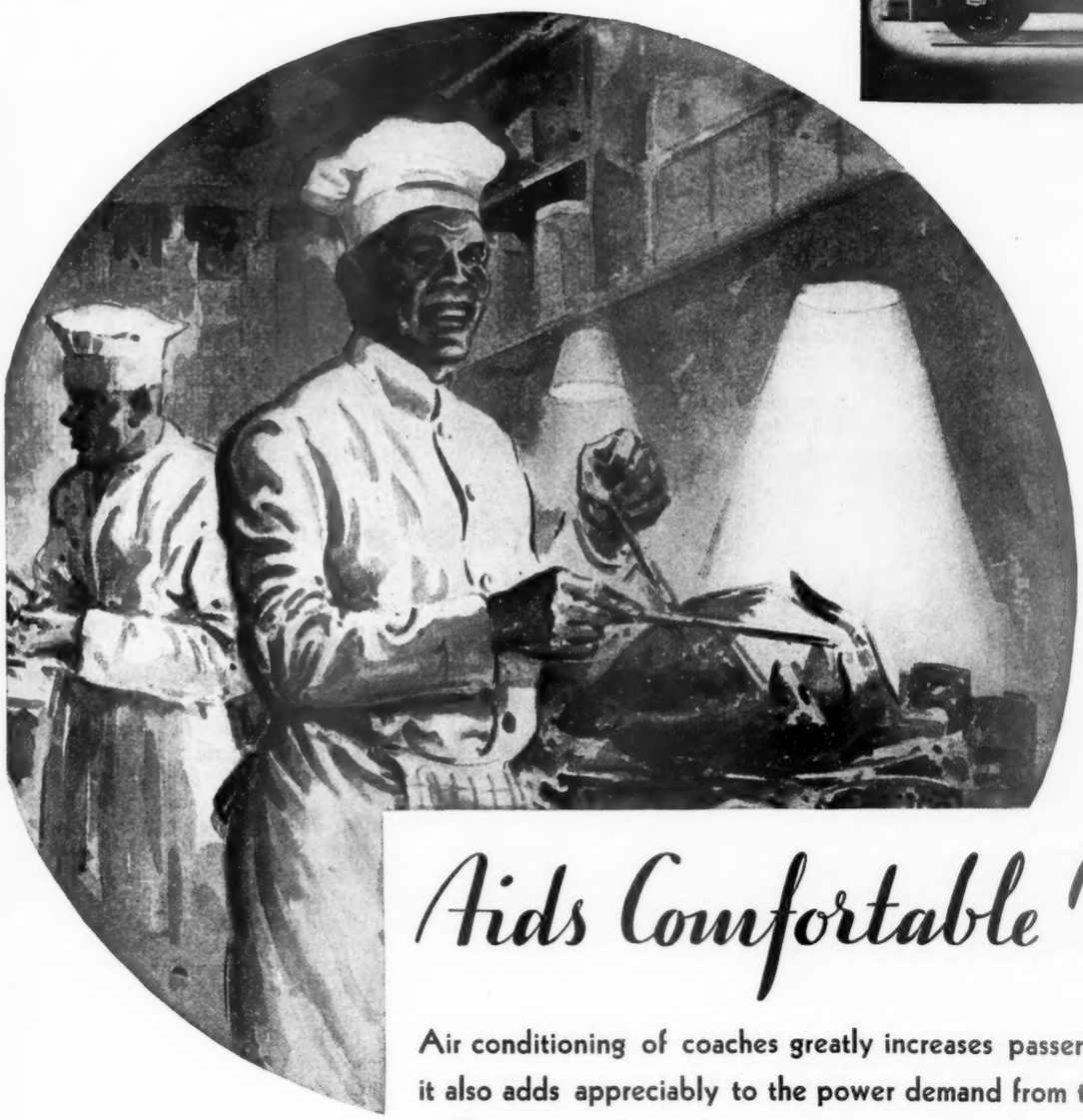
Severe criticism of the present Section 77 as well as of the Eastman bill was expressed by Louis B. Wehle, counsel for certain security holders. He offered a substitute bill which he said represented the views of many governmental officials and which he described as providing for a reformed equity process by which the rights of stockholders are reasonably protected by giving them option warrants to enable them to participate if the earnings of the company recover. Mr. Wehle said the bill represented an improvement over the present law, which he said made reorganizations impossible, but that it still included "so many obstructions in the way of a reorganization that some of us feel there will never be a reorganization under it." He said the law had its origin in a period when everyone believed that prosperity was just around the corner and that for that reason its authors may be pardoned for having made it a "stalling device." He also said that a bill that cuts off the stockholders in the "zero hour" of railroad earnings is bound to work badly.

Elihu Root, Jr., counsel for a protective committee of Chicago, Rock Island & Pa-

Continued on next left-hand page

THE LOCOMOTIVE BOOSTER





Aids Comfortable Travel

Air conditioning of coaches greatly increases passenger comfort; but it also adds appreciably to the power demand from the locomotive.

This increased traveling comfort is well worth its cost only if trains are handled smoothly and on time.

Because of the increased power demands on the locomotive, The Booster is essential to assure satisfactory performance.

It not only meets the demand for faster schedules by getting the train up to road speeds in half the time, but it also safeguards the comfort of the passengers by avoiding jars and shocks in starting.

In any budget for air conditioning include The Locomotive Booster as a desirable factor.

When maintenance is required a replacement part assumes importance equal to that of the device itself and should be purchased with equal care. Use only genuine Franklin repair parts in Franklin equipment.

FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK CHICAGO MONTREAL

cific bondholders, has sent a letter to the committee objecting to a provision in the bill which would preserve the right of the holders of equipment trust certificates to exercise their remedies to take possession of the equipment as security and to remove it from the jurisdiction of the trustees.

Other testimony regarding the bill was given by S. Abbot Maginnis, representing the American Short Line Railroads Association, Fred N. Oliver, for the Nationl Association of Mutual Savings Banks, and Kenneth Burgess, representing life insurance companies.

Equipment and Supplies

LOCOMOTIVES

CUNDINAMARCA RAILWAY (Colombia).—This road has asked for bids April 30 on locomotives and rolling stock as follows: From 4 to 8 locomotives; 35 box cars, 15 stock, 17 gondola and 5 flat; 6 first-class passenger cars, 8 second-class coaches, 13 third-class coaches, 3 restaurant cars, 2 baggage cars, and 4 rail motor cars. The above is from a consular report. Particulars may be obtained from the Transportation division, Bureau of Foreign and Domestic Commerce, Washington, D. C., mentioning Exhibit 4106. The headquarters of the company are at Apartardo de Correos, No. 127, Bogota, Colombia; Gulick-Henderson Company, New York, are the inspecting and testing engineers.

FREIGHT CARS

THE AMTORG TRADING CORPORATION has placed an order for 5,000 sets of wheels and axles for freight cars, dividing the order between the Bethlehem Steel Company and the United States Steel Corporation.

PASSENGER CARS

THE BOARD OF TRANSPORTATION, CITY OF NEW YORK, is preparing specifications and will in the near future ask for bids on 500 steel passenger cars for subway service.

IRON AND STEEL

THE CENTRAL OF NEW JERSEY has ordered from the Shoemaker Bridge Company, Pottstown, Pa., 69 tons of structural steel to be used in the construction of a highway bridge on the New York & Long Branch, at Laurence Harbor, N. J.

AKRON, CANTON & YOUNGSTOWN.—An allotment of $380,000 for a loan to this company with which to purchase and lay 7,394 tons of rail and the necessary fastenings has been announced by Public Works Administrator Harold L. Ickes. The rails and fastenings will cost approximately $337,000 and the company's track forces in Ohio will be paid $43,000 for laying them.

Construction

Grade Crossing Eliminations in New York State

The New York Public Service Commission has issued orders fixing definite dates on which various railroads in the state shall submit plans for the elimination of grade crossings which have been ordered eliminated by the commission. The orders now issued relate to 42 grade crossing projects; the New York Central is involved in 32 of the present orders; the Delaware, Lackawanna & Western in four; the Lehigh Valley in three; the Delaware & Hudson, the New York, New Haven & Hartford and the Pennsylvania in one each.

BALTIMORE & OHIO.—This road has received bids for furnishing, fabricating and erecting 255 tons of steel for a railroad bridge to be built in connection with grade crossing elimination work at West Main street, Le Roy, N. Y. See *Railway Age*, March 9, page 372.

BALTIMORE & OHIO.—The United States Engineer office, Zanesville, Ohio, has requested bids for the relocation of approximately 5.25 miles of the line of the Baltimore & Ohio in the vicinity of the Beach City, Ohio, reservoir. The work included in this contract will involve the removal of the existing tracks and bridges between the limits of the relocation, all necessary grading and the construction of tracks for the relocated line, the construction of station buildings, a platform and a water tank at Beach City and the construction of the piers and abutments for a bridge across Sugar creek. The grading will require 385,000 cu. yd. of excavation, 115,000 cu. yd. of borrow, and 720,000 cu. yd. of overhaul. The bridge work will require 10,000 lin. ft. of foundation piles, 30 to 35 ft. in length, 2,150 cu. yd. of concrete, and 205,000 lb. of reinforcing steel. The track work will involve the removal of 32,500 lin. ft. of track and the construction of 26,800 lin. ft. of main track and 6,800 lin. ft. of side track.

CENTRAL OF NEW JERSEY.—A contract has been given to the Linde-Griffith Construction Company, Newark, N. J., for the construction on the New York & Long Branch of the three-span, skew highway bridge, 118 ft. long with a 20 ft. roadway and concrete abutments and steel girders and floorbeams, at Laurence Harbor, N. J., to cost about $21,700. See *Railway Age*, April 6, page 549.

DULUTH, SOUTH SHORE & ATLANTIC.—Harry P. Bourke, Escanaba, Mich., has been awarded a contract for taking up about 75 miles of this company's line between Marengo, Wis., and Superior, and about 15 miles of the Mineral Range (a subsidiary of the D. S. S. & A.) between Alston, Mich., and Simar.

NEW YORK CENTRAL-LEHIGH VALLEY.—The New York Public Service Commission has directed the elimination of all the New York Central and Lehigh Valley grade crossings in the City of Batavia, N. Y., at an estimated cost of more than $3,000,000. The commission approved a modification of the plan proposed by the City of Batavia to carry out the elimination. This modified plan generally provides for the relocation of the main line south of virtually all the city. The crossings which are involved in the project are the Cedar, Harvester, Swan, Liberty, Ellicott, Jackson, Evans and Walnut street crossings on the main line of the New York Central; the Cedar, Webster, Harvester, Swan, Liberty, Ellicott and Jackson street crossings on its Canandaigua branch; and the Evans, Maple and Law street crossings on its Attica branch. Also involved are the South Jackson street, Clifton avenue and Ellicott street crossings of the Lehigh Valley.

NORTHERN PACIFIC.—This company expects to ask for bids soon for the construction of a small combination station at White Bear Lake, Minn.

STATEN ISLAND RAPID TRANSIT RAILWAY COMPANY.—This company, a subsidiary of the Baltimore & Ohio, has given a contract to the Bates & Rogers Construction Company, Staten Island, N. Y., for the elimination of three grade crossings at Fort Wadsworth, Staten Island. See *Railway Age*, February 2, page 213.

UNION PACIFIC.—A contract has been awarded to the Morrison-Knudson Company, Boise, Idaho, for the grading and track laying in connection with the construction of a 12-mile spur track extending from Iron Mountain, Utah, to the Desert Mound iron mines of the Columbia Steel Company. This work is to be completed about July 15.

A contract has been awarded to the Hyman-Michaels Company, Chicago, for the dismantling of 200 miles of branch lines in Kansas between Leavenworth, Clay Center and Concordia and between Lawrenceburg and Belleville.

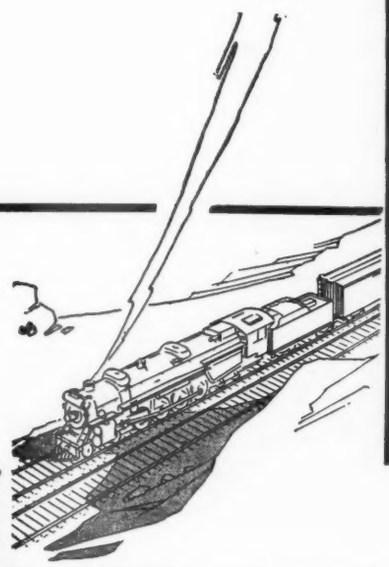
TRADE PUBLICATIONS

CP EQUIPMENT FOR MAINTENANCE OF WAY AND BRIDGE REPAIR.—In a 16-page booklet issued by the Chicago Pneumatic Tool Company, 6 East Forty-fourth street, New York, this company describes and illustrates its complete line of air compressors and pneumatic and electric tools for use in railway maintenance of way and bridge repair work.

WHAT ABOUT YOUR ROOFS? — The Johns-Manville Company, 22 East Fortieth street, New York, has issued a brochure with the foregoing title, which discusses the physical properties and characteristics of various types of built-up roofing materials, and the importance of both expert inspection during roof construction and of keeping abreast of necessary roof repairs. The brochure also gives consideration to roof insulation, and describes briefly a new type of roof unit, which combines insulation and waterproofing with a steel deck, all in one unit structure.

Continued on next left-hand page

WOULD YOU RUN A LOCOMOTIVE WITH HALF THE FLUES PLUGGED?



IT could be done—but at a sacrifice of both capacity and economy.

Running a locomotive with one or more courses of the Security Arch missing is correspondingly inefficient and expensive.

The Security Arch represents years of intensive engineering and experience in its design.

And, being specially designed for the individual class of power in which it is to function any change results in an expensive loss in effectiveness — requires buying more fuel — results in a net loss to the railroad.

At every boiler wash period be sure a complete Security Brick Arch is in place.

HARBISON-WALKER REFRACTORIES CO.

Refractory Specialists

NRA MEMBER U.S. WE DO OUR PART

AMERICAN ARCH CO.
INCORPORATED

Locomotive Combustion Specialists

Supply Trade

The Lukens Steel Company has moved its New York City office from 17 Battery place to the Chrysler building, 405 Lexington avenue.

L. W. Lyons has been elected treasurer of the **Westinghouse Electric & Manufacturing Company** to succeed **H. F. Baetz,** retired and **V. F. Covert** was elected assistant comptroller, both with headquarters at East Pittsburgh, Pa.

A. G. Bean, president of the **White Motor Company,** Cleveland, Ohio, has, at his own request, been relieved of the presidency and elected chairman of the board. **R. F. Black,** president of the Brockway Motor Truck Corporation, has been elected to succeed Mr. Bean in the White presidency. He will assume his new duties on May 1.

At a meeting of the board of directors of **The J. G. Brill Company** in New York on April 23, **E. P. Rawle** resigned as director and treasurer and **E. L. Oerter** was elected to succeed him in both offices. At the same meeting the board designated **L. E. Hess** as executive vice-president. He had previously been elected vice-president.

R. A. Greene has been appointed acting manager of the railroad sales department of the **Standard Oil Company of New Jersey,** New York, succeeding the late **William F. Walsh.** Mr. Greene, formerly with the Chicago & Alton and the Galena Signal Oil Company, has been associated with the Standard Oil Company of New Jersey for the past nine years, assisting Mr. Walsh.

The Westinghouse Electric & Manufacturing Company has combined its arc welding manufacturing and technical facilities with those of the **Hollup Corporation Sales Service,** Chicago. The Westinghouse-Hollup combination establishes a large source of welding equipment and technical service for the railroad industry. Hollup, as exclusive distributor of Westinghouse welding equipment, excepting the Back Bay region of the San Francisco district, has distributing facilities in 19 of the principal cities of the United States and at Toronto and Montreal in Canada.

C. B. Armstrong has been appointed railroad sales manager, Central division of the **Air Reduction Sales Company,** with office at Chicago, succeeding **B. N. Law,** deceased. Mr. Armstrong has been associated with the company since October 1, 1920, having first been employed in its sales department at Pittsburgh, Pa. In the spring of 1925, he was transferred to the general offices of the company at New York, where he was soon appointed general sales manager of one of its affiliated companies, which position he held until his recent appointment to the railroad sales department at Chicago.

Lawrence J. Kline, general manager of the **Mercury Manufacturing Company,** Chicago, has been elected vice-president and general manager. Mr. Kline was born in Beatrice, Neb., and was educated at the University of Nebraska. During the war he served as a lieutenant in

Lawrence J. Kline

the air service and, in 1919, became a sales engineer for the Mercury Manufacturing Company, successively holding the positions of assistant general manager, general manager and vice-president.

John Cornish, sales engineer of **The Miller Company,** Meriden, Conn., is now located in the Philadelphia, Pa., office of the **Electric Service Supplies Company.** This is a further step in the co-operative arrangement of these two companies which brings together their knowledge and experience in the field of transportation lighting, and their new designs of lighting equipment for trains, cars and buses. Mr. Cornish was born 40

John Cornish

years ago and received his technical education in England, France and Germany, as well as in this country, and then chose the illumination field as his work. He joined the engineering force of the Ivanhoe Region Works of the General Electric Company, Cleveland, Ohio, 16 years ago. This company was later sold to the Miller Company. Mr. Cornish has been continuously in sales and sales engineering work. He is attached to the department of product sales engineering, and is devoting his full time to the development of transportation lighting, making his headquarters at Electric Service Supply Company in Philadelphia, who have become exclusive distributors of Keystone Ivanhoe lighting equipment for transportation industry.

The Jones & Laughlin Steel Corporation, Pittsburgh, Pa., elected three new directors at its annual meeting; one to fill a vacancy, and two to occupy additional directorships created by action of the stockholders. The new members of the board are: **Dwight Clark,** treasurer of the Phillips Properties, Inc.; **William B. Todd,** who was elected vice-president in charge of sales as well as a director, and who has been general manager of sales of the corporation since 1931; **F. E. Fieger,** who since 1929 has been general manager, was made a director, a member of the executive committee, and vice-president in charge of manufacturing operations.

OBITUARY

W. H. Snedaker, vice-president of the Griffin Wheel Company, Chicago, with headquarters at San Francisco, Cal., died in that city on April 19 of a complication of ailments.

Edward Morton McIlvain, who was for many years in the iron and steel business and formerly from 1901 to 1906 president and a director of the Bethlehem Steel Company, died on April 18 at his home in New York at the age of 72.

Daniel J. Whalen, general manager of the Canton plant of the Pullman-Standard Car Manufacturing Company, died on April 18 at the age of 56. Mr. Whalen had been in the car building industry for 40 years, having served for a number of years at the Milton (Pa.) tank car plant of the American Car & Foundry Company, then with the Pressed Steel Car Company at Pittsburgh, Pa. He then went to the Canton Car Company, serving as general manager and later as general manager of the same plant, with its successors, the Pullman-Standard Car Manufacturing Company, until the time of his death.

John A. Talty, special engineer of the Franklin Railway Supply Company, Inc., died at his home in Buffalo, N. Y., on April 19. Mr. Talty spent his early boyhood on a farm, starting his railroad work as a waterboy on the Erie. In 1873 he became a freight brakeman on that road and served successively as fireman and engineman. He then became an instructor on the air brake for the Westinghouse Company in charge of its instruction car and later was employed in a similar position with the International Correspondence Schools. From 1900 to 1910 he was president of the Traveling Engineers' Association. In 1910 he became assistant supervisor of equipment for the Public Service Corporation of New York, later becoming assistant superintendent. In 1921 Mr. Talty became special engineer of the Franklin Railway Supply Company, Inc., which position he held at the time of his death.

Continued on next left-hand page

IN 21 cases where interlockings were consolidated, net average annual savings of 22½ per cent were reported according to the A. R. A., Signal Section.

Consolidation of two or more interlockings, by controlling their functions from one location, is desirable from many standpoints, particularly in terminal areas. Traffic can be handled at much less cost and better coordination of movements is achieved. » » » » » »

"Union" engineers are available to cooperate with you in determining the engineering and economic phases of interlocking consolidation projects that your operating conditions might require. » » » » » » »

1881 **Union Switch & Signal Co.** 1935

SWISSVALE, PA.

NEW YORK MONTREAL CHICAGO ST. LOUIS SAN FRANCISCO

Financial

ANN ARBOR.—*Annual Report.*—The 1934 annual report of this company shows net deficit, after interest and other charges, of $52,287, as compared with net deficit of $226,032 in 1933. Selected items from the income statement follow:

	1934	1933	Increase or Decrease
Average mileage operated	293.86	293.86	.....
RAILWAY OPERATING REVENUES	$3,307,260	$2,985,896	+$321,364
Maintenance of way	291,151	312,685	−21,533
Maintenance of equipment	583,171	547,424	+35,746
Transportation—Rail	1,416,137	1,279,089	+137,048
TOTAL OPERATING EXPENSES	2,574,839	2,381,685	+193,153
NET REVENUE FROM OPERATIONS	732.420	604,210	+128,210
Railway tax accruals	131,555	164,977	−33,421
Railway operating income	600,810	438,935	+161,875
Total for hire of freight cars, and equipment and joint facility rents	226,151	218,689	7,461
NET RAILWAY OPERATING INCOME	374,659	220,245	+154,413
Non-operating income	18,649	14,181	+4,468
GROSS INCOME	393,308	234,426	+158,882
Interest on funded debt	413,193	420,135	−6,942
TOTAL DEDUCTIONS FROM GROSS INCOME	445,596	460,458	−14,862
NET INCOME	$52,287*	$226,032*	+$173,744

* Deficit.

ATCHISON, TOPEKA & SANTA FE.—*Abandonment.*—Examiner Thomas F. Sullivan of the Interstate Commerce Commission has recommended in a proposed report that the commission authorize the abandonment by this company and the Rocky Mountain & Santa Fe, lessee, of a line from Dillon, N. M., to Des Moines, 44.88 miles.

CHICAGO & EASTERN ILLINOIS.—*Reorganization Hearing.*—The Chicago & Eastern Illinois has asked postponement to July 15 of the hearing of a plan of reorganization scheduled to be held on April 22. The Reconstruction Finance Corporation has accepted the postponement. Following this action, Federal Judge John P. Barnes, on April 20, entered an order directing that all parties in the receivership litigation take such steps as may be necessary to speed reorganization. The road was the first to avail itself two years ago of Section 77 of the amended bankruptcy act and, while a plan of reorganization has been submitted to the Interstate Commerce Commission, no action has been taken. No plan has yet been submitted to the court. However, two plans for reorganization are being prepared, one by the company management and another by a bondholders' committee, both of which will be submitted to the Interstate Commerce Commission before July 15.

CENTRAL OF GEORGIA.—*Annual Report.*—The 1934 annual report of this company shows net deficit, after interest and other charges, of $2,607,341, as compared with net deficit of $2,669,565 in 1933. Selected items from the income statement follow:

	1934	1933	Increase or Decrease
Average mileage operated	1,926.63	1,935.73	−9.10
RAILWAY OPERATING REVENUES	$13,353,151	$12,132,343	+$1,220,807
Maintenance of way	1,531,852	1,417,876	+113,975
Maintenance of equipment	2,863,368	2,668,084	+195,284
Transportation—Rail	5,354,413	4,849,627	+504,785
TOTAL OPERATING EXPENSES	11,340,897	10,356,849	+984,047
Operating ratio	84.93	85.37	−.44
NET REVENUE FROM OPERATIONS	2,012,253	1,775,493	+236,760
Railway tax accruals	888,159	794,926	+93,233
Railway operating income	1,120,861	978,500	+142,361
Equipment rents—Net	308,312	203,163	+105,148
Joint facility rents—Net	136,866	139,325	−2,458
NET RAILWAY OPERATING INCOME	675,682	636,011	+39,671
Non-operating income	416,537	431,840	−15,303
GROSS INCOME	1,092,219	1,067,851	+24,367
Rent for leased roads	382,523	377,712	+4,811
Interest on funded debt	3,010,294	3,035,977	−25,683
TOTAL DEDUCTIONS FROM GROSS INCOME	3,699,561	3,737,417	−37,855
NET INCOME	$2,607,341*	$2,667,565*	+$62,223

* Deficit.

DELAWARE & HUDSON.—*New Director.*—Gates W. McGarrah, of New York, has been elected to the board of managers of this company, succeeding Henry W. de Forest, resigned.

ELGIN, JOLIET & EASTERN.—*Annual Report.*—The 1934 annual report of this company shows net deficit, after interest and other charges, of $389,059, as compared with net deficit of $532,148 in 1933. Selected items from the income statement follow:

	1934	1933	Increase or Decrease
RAILWAY OPERATING REVENUES	$10,289,344	$9,985,607	+$303,736
Maintenance of way	1,066,737	967,636	+99,101
Maintenance of equipment	2,522,818	2,267,903	+254,914
Transportation—Rail	4,001,975	3,677,286	+324,688
TOTAL OPERATING EXPENSES	8,344,359	7,563,736	+780,622
Operating ratio	81.10	75.75	+5.35
Railway tax accruals	886,938	1,001,587	−114,649
Railway operating income	1,057,854	1,419,869	−362,015
Equipment and joint facility rents—Net Dr.	396,220	491,481	−95,261
NET RAILWAY OPERATING INCOME	661,633	928,387	−266,754
Non-operating income	62,397	101,405	−39,008
GROSS INCOME	724,031	1,029,793	−305,762
Rent for leased roads	513,612	948,818	−435,206
Interest on funded debt	500,000	500,000	.....
NET INCOME	$389,059*	$532,148*	+$143,089

* Deficit.

ILLINOIS CENTRAL.—*Consolidation of Subsidiaries.*—The consolidation of Illinois Central subsidiaries north of the Ohio river was authorized by stockholders at the annual meeting at Chicago on April 17. While no immediate plans for consolidation are under consideration, the granting of approval for the proposal advanced by the executive committee will give directors an opportunity to consolidate units in the event that further borrowing from the Reconstruction Finance Corporation becomes necessary. This action will permit the issuance of a new mortgage to refund the existing mortgage indebtedness and to provide a cushion of securities which can later be sold or pledged as collateral in the event that it becomes necessary to do some additional financing.

LOUISVILLE & NASHVILLE.—*Operation.*—The Interstate Commerce Commission has authorized this company to operate a line between Cliffside, Ky., and Millville, 6 miles. The line is a portion of a segment the operation of which had been abandoned by the L. & N., but the opening up of a distillery on the line, and the possible reopening of another, occasioned traffic prospects leading the company to desire to renew operating of a portion of the abandoned line.

MONONGAHELA.—*Bonds.*—This company has applied to the Interstate Commerce Commission for authority to issue $1,245,000 of capital stock, to be delivered to the proprietary companies, the Baltimore & Ohio, the Pennsylvania, and the Pittsburgh & Lake Erie, in settlement of indebtedness, and to issue and sell $12,000,000 of first mortgage 4 per cent bonds under a new mortgage dated May 1, 1935, maturing in 1960. The proceeds are to be applied to the settlement of the balance of the indebtedness and to the retirement of $5,000,000 of first and refunding 4½ per cent bonds and $835,000 first mortgage 3½ per cent bonds. The new bonds are expected to be sold to Kuhn, Loeb & Co., at 99¼. The proprietary companies have also applied to the commission for authority to guarantee the bonds.

NEW YORK CENTRAL.—*B. & A. Bonds.*—The Interstate Commerce Commission has authorized this company to issue $9,000,000 of main line first mortgage Series A 4½ per cent bonds, to be delivered to the New York Central, which is authorized to sell them at 96¾, making the cost 5.314 per cent. The purchasers are 15 firms, represented by Whiting, Weeks & Knowles, Inc., the First Boston Corporation and R. L. Day & Co. The issue will mature in 1943.

VIRGINIAN.—*Annual Report.*—The 1934 annual report of this company shows net income, after interest and other charges, of $3,574,440, as compared with net income of $2,956,652 in 1933. Selected items from the income statement follow:

	1934	1933	Increase or Decrease
Average mileage operated	619.33	614.15	−5.18
RAILWAY OPERATING REVENUES	$14,443,351	$13,433,772	+$1,009,578

Continued on next left-hand page

Replace Arch Bars with NATIONAL SIDE FRAMES

We supply Side Frames made to latest A. R. A. specifications for replacement on Arch Bar Trucks

also

NATIONAL TYPE B TRUCKS

No Spring Plank Required

The Truck for Easier Riding and Quick Wheel Change

NATIONAL MALLEABLE AND STEEL CASTINGS CO.

General Office—Cleveland, O.

Sales Offices: New York, Philadelphia, Chicago, St. Louis, San Francisco
Works: Cleveland, Chicago, Indianapolis, Sharon, Pa., Melrose Park, Ill.

TOTAL OPERATING EXPENSES	6,701,873	6,520,504	+181,369
Operating ratio	46.40	48.54	−2.14
NET REVENUE FROM OPERATIONS	7,741,477	6,913,267	+828,209
Railway tax accruals	1,735,000	1,620,000	+115,000
Railway operating income	6,006,128	5,292,483	+713,645
Equipment rents—Net	689,208	775,595	−86,386
Joint facility rents—Net	77,221	48,585	+28,635
NET RAILWAY OPERATING INCOME	6,772,558	6,116,664	+655,893
Non-operating income	1,042,426	1,076,302	−33,875
GROSS INCOME	7,814,985	7,192,967	+622,018
Rent for leased roads	977,608	916,133	+61,474
Interest on funded debt	3,151,527	3,187,849	−36,322
TOTAL FIXED CHARGES	4,210,280	4,205,954	+4,326
NET INCOME	$3,574,440	$2,956,652	+$617,787

WABASH.—*Annual Report.*—The 1934 annual report of this company shows net deficit, after interest and other charges, of $3,107,620, as compared with net deficit of $4,823,058 in 1933. Selected items from the income statement follow:

	1934	1933	Increase or Decrease
Average mileage operated	2,455.06	2,471.97	−16.91
RAILWAY OPERATING REVENUES	$38,235,813	$36,207,016	+$2,028,796
Maintenance of way	4,621,032	4,360,050	+260,981
Maintenance of equipment	5,978,723	6,148,120	−169,397
Transportation—Rail	14,492,651	13,977,601	+515,049
TOTAL OPERATING EXPENSES	28,523,481	27,577,369	+946,111
NET REVENUE FROM OPERATIONS	9,712,332	8,629,647	+1,082,685
Railway tax accruals	1,325,927	1,817,106	−491,178
Railway operating income	8,378,441	6,803,657	+1,574,783
Total for hire of freight cars, and equipment and joint facility rents	4,023,168	4,058,168	−34,999
NET RAILWAY OPERATING INCOME	4,355,272	2,745,489	+1,609,783
Non-operating income	369,232	523,422	−154,190
GROSS INCOME	4,724,505	3,268,912	+1,455,592
Rent for leased roads	356,924	356,955	−30
Interest on funded debt	6,968,667	7,046,640	−77,972
TOTAL DEDUCTIONS FROM GROSS INCOME	7,832,125	8,091,970	−259,844
NET INCOME	$3,107,620*	$4,823,058*	+1,715,437

* Deficit.

Average Prices of Stocks and of Bonds

	Apr. 23	Last week	Last year
Average price of 20 representative railway stocks..	31.93	30.87	47.45
Average price of 20 representative railway bonds..	72.66	72.33	80.26

Dividends Declared

Kansas, Oklahoma & Gulf.—6 per cent Preferred A, $3.00, semi-annually; 6 per cent Preferred B, $3.00, semi-annually; 6 per cent Preferred C, $1.50, all payable June 1 to holders of record May 20.

Montgomery & Erie.—17½¢, semi-annually, payable May 10 to holders of record April 30.

Norfolk & Western.—$2.00, quarterly, payable June 19 to holders of record May 31.

Railway Officers

EXECUTIVE

K. C. Ingram, formerly general advertising manager of the Southern Pacific, has been appointed assistant to the president with duties and responsibilities as may be assigned to him. He will have his headquarters at San Francisco, Cal. Mr. Ingram was born on June 6, 1889, at Merced, Cal. He entered the service of the Southern Pacific 13 years ago and served as editor of the railroad's news bureau and employees' magazine, assistant manager of development and colonization and general advertising manager. Five years ago Mr. Ingram left this company to engage in sales promotion and advertising work in San Francisco for such accounts as travel, foods and California products. He has also engaged in newspaper work in various California cities.

Nathaniel Duke, vice-president in charge of traffic for the Delaware, Lackawanna & Western, will, at his own request, be relieved of his duties in that connection on May 1, but, the announcement says, "will continue in the service of the company, reporting to the president and devoting his attention to matters of special assignment." **Joseph J. Byrne,** general freight traffic manager, will succeed Mr. Duke as vice-president in charge of traffic. Mr. Duke was born on May 29, 1863, at Prince Frederick, Calvert County, Md. He entered railway service in 1881 as a clerk with the Baltimore &

Nathaniel Duke

Ohio at Baltimore and served in various clerical capacities with that road until 1885. In 1886 he entered the service of the Chicago, Burlington & Quincy as waybill clerk and in the following year he was appointed assistant chief rate clerk in the general freight office at Chicago. Two years later he became chief clerk in the general office of the Burlington, later becoming chief contracting agent. In 1892 he became assistant general agent for the Great Northern at Chicago and in 1894 he became agent for the Elgin, Joliet & Eastern. Mr. Duke entered the service of the Nickel Plate Fast Freight Line in 1896 and in 1898 he became commercial agent for the West Shore (now New York Central) at New Haven, Conn., which position he held until 1902, when he became New England agent for the Lehigh Valley. From September, 1902, to April, 1903, Mr. Duke was general New England

Joseph J. Byrne

agent for the Delaware, Lackawanna & Western at Boston, becoming, in 1903, general eastern freight agent at New York. In 1909 he became general freight agent and in 1911 he was promoted to assistant freight traffic manager. During federal control of railroads he served as official classification territory assistant to the traffic director of the Food Administration at New York. Upon the return of the railroads to private management Mr. Duke became freight traffic manager and in 1926 he was promoted to general freight traffic manager. Mr. Duke was elected vice-president of traffic in April, 1929.

Mr. Byrne was born in 1871 at Riley, Ohio, and entered railway service in 1887 as telegraph operator of the Cleveland, Cincinnati, Chicago & St. Louis and later became traffic agent. He was appointed contracting agent of the Nickel Plate Fast Freight Line at Indianapolis, Ind., in 1892. Mr. Byrne entered the service of the Delaware, Lackawanna & Western in 1897 as commercial agent at Indianapolis and in 1901 he was transferred to Cleveland, Ohio. He was promoted to division freight agent at Syracuse, N. Y., in 1905 and in 1909 he became general eastern freight agent at New York. In 1918 he became assistant general freight agent and general freight agent in 1919. Mr. Byrne became assistant freight traffic manager in 1920, and freight traffic manager in 1926. He became general freight traffic manager in April, 1929.

OPERATING

F. C. Paulsen, assistant superintendent on the Union Pacific at North Platte, Neb., has been transferred to Pocatello, Idaho, on the Oregon Short Line (part of the Union Pacific System).

G. C. Starkweather has been appointed general superintendent for the Akron, Canton & Youngstown and the Northern Ohio, with headquarters at Akron, Ohio, with

Continued on next left-hand page

Specialization

SUCCESSFUL surgery is highly specialized. Its application is the result of years of specialized study and practice — plus the right kind of instruments and equipment. Generalization would not spell successful surgery.

The science of the successful manufacture of superheater equipment and the successful REmanufacture of unserviceable or worn out superheater units likewise is highly developed and specialized.

This specialized service is the result of 25 years experience in designing, manufacturing, and servicing locomotive superheaters for American railroads. Step by step our designs and methods of manufacturing have been improved so that the superheater will stand up better under the severest operating conditions.

Today, when the railroads send us their unserviceable superheater units for REmanufacture, we put the sound lengths of tubing through a series of special forging steps, by which the ends of the tubing are formed — with precision control — into new return bends. This special process converts unserviceable superheater units into REmanufactured units, with the sound structure of new units and without joints that might weaken the tubing or obstruct the flow of steam or gas.

The Elesco unit REmanufacturing service is a highly specialized service to the railroads that cannot be duplicated.

THE SUPERHEATER COMPANY

Representative of AMERICAN THROTTLE COMPANY, Inc.

60 East 42nd Street
NEW YORK

Peoples Gas Building
CHICAGO

A-973

Canada: The Superheater Company, Limited, Montreal

Superheaters - Feed Water Heaters - Exhaust Steam Injectors - Superheated Steam Pyrometers - American Throttles

jurisdiction over the transportation, maintenance of way and maintenance of equipment departments.

F. B. Kraus, assistant trainmaster on the Philadelphia division of the Pennsylvania, has been appointed trainmaster on the St. Louis division, with headquarters at Terre Haute, Ind., succeeding **A. F. McIntyre,** whose promotion to superintendent of freight transportation of the Eastern region was noted in the *Railway Age* of March 30. **Claude Crawford,** yardmaster on the Philadelphia Terminal division, has been appointed assistant trainmaster of the Grand Rapids division, with headquarters at Grand Rapids, Mich., succeeding **W. J. Wiltse,** who has been transferred to Philadelphia.

TRAFFIC

H. H. Meyer, general agent of the Chicago & Illinois Midland, with headquarters at New York, has been appointed general eastern agent for the Louisiana & Arkansas at New York, succeeding **L. B. Kelz,** who has resigned to accept a position with the Mississippi Central at New York.

Charles F. McTague, freight traffic manager of the Delaware, Lackawanna & Western, will on May 1 become general freight traffic manager, to succeed **Joseph J. Byrne,** who, as reported elsewhere in this issue, has been promoted to a vice presidency. **Maurice Williams,** assistant freight traffic manager, will succeed Mr. McTague as freight manager, while **William J. Daily,** general freight agent, becomes assistant freight traffic manager and **Joseph S. Sikora,** assistant general freight agent, becomes general freight agent. Other changes involve the promotion of **William A. Miller,** division

Charles F. McTague

freight agent at Newark, N. J., to succeed Mr. Sikora as assistant general freight agent; the appointment of **Thomas L. Steele,** commercial agent at Albany, N. J., to succeed Mr. Miller as division freight agent at Newark; and the appointment of **Harry F. Doyle,** freight representative at Cleveland, Ohio, as Mr. Steele's successor at Albany.

Mr. McTague was born on July 2, 1875, at Galt, Ont. He entered railway service in 1892 in the local freight office of the Canadian Pacific at Galt. In June, 1893, he entered the service of the Michigan Central as rate clerk at Buffalo. He was appointed chief clerk to the general eastern freight agent of the Delaware, Lackawanna & Western at New York, in September, 1899, and in 1903 he was appointed contracting freight agent. He was appointed commercial agent for the same road at Cleveland, Ohio, in December, 1905, and in July, 1909, he was promoted to the position of general eastern freight agent at New York. In November of the same year he was appointed assistant general freight agent at Buffalo and in July, 1924, he was promoted to general foreign agent at New York. He held the latter position until February, 1926, when he was appointed assistant freight traffic manager. Mr. McTague was promoted to freight traffic manager in April, 1929.

Maurice Williams

Mr. Williams was born in Leamington, England, and entered railway service with the London & Northwestern at Liverpool, Eng. He came to America in 1898 and entered the freight department of the Missouri Pacific at Kansas City, Mo. In 1902 he came east and served in a similar capacity with the Erie. The following year he served in the billing office of the Old Dominion Steamship Company in New York and in 1906 he became rate clerk for the Mallory Steamship Line at the same point. He entered the service of the Delaware, Lackawanna & Western in October, 1907, as rate clerk in the general freight traffic department. He was appointed chief clerk in 1909 and in 1918 he became assistant to the freight traffic manager. In March, 1920, Mr. Williams was appointed assistant general freight agent, serving in that capacity until April, 1929, when he was appointed general freight agent. He was appointed assistant freight traffic manager in 1933.

SPECIAL

Fred R. Allen has been appointed supervisor of fire prevention of the Pere Marquette, with headquarters at Detroit, Mich., succeeding **James Burke,** deceased.

OBITUARY

Thomas J. Hughes, general freight agent on the Atchison, Topeka & Santa Fe, with headquarters at Chicago, died on April 22 in St. Anne's hospital at that point following an operation. A brief sketch of Mr. Hughes' railway experience, together with a photograph, was presented in the *Railway Age* of June 16, 1934, page 903, on the occasion of his appointment as general freight agent.

J. L. Aber, assistant general solicitor of the Pennsylvania, with headquarters at Chicago, died on April 23 at his home at La Grange, Ill., following a brief illness.

Thomas Harlan Baird McKnight, who retired as vice-president of the Pennsylvania in 1929, died at his home in Washington, D. C., on April 22.

Frank G. Faulkner, formerly a superintendent on the St. Louis-San Francisco, died of a heart attack on April 22, at Jacksonville, Fla. Mr. Faulkner was born in 1873 at Rolla, Mo. He entered railway service in 1888 as a messenger on the St. Louis-San Francisco, being appointed a telegraph operator in the following year and an agent in 1890. In 1893, Mr. Faulkner went with the Gulf, Colorado & Santa Fe as a train dispatcher, returning to the Frisco in 1901, as chief dispatcher. From 1904 to 1908, he served as a trainmaster, being appointed assistant superintendent in the latter year. From 1918 to 1920 he served as superintendent of terminals, at the end of which period he was made superintendent of the River division, with headquarters at Chaffee, Mo. In 1923, Mr. Faulkner was assigned to special duties on the staff of the general manager, which position he held until his retirement several years later.

William H. Haley, assistant general superintendent of transportation on the Missouri Pacific, with headquarters at St. Louis, Mo., died on April 21 of heart disease at the Missouri Pacific hospital in St. Louis. Mr. Haley was born on July 27, 1872, at Dundee, Mo., and entered railway service on August 15, 1888, as a messenger boy with the Terminal Railroad Association of St. Louis. Subsequently, he served as a yard clerk and car accountant for this company, then going with the Missouri Pacific on January 10, 1901, as general yard clerk at St. Louis. In 1904, he was appointed also to the same position on the St. Louis, Iron Mountain & Southern (part of the Missouri Pacific), and on June 16, 1905, he was appointed car clerk on the St. Louis Terminal division of these companies. On June 1, 1907, Mr. Haley was made freight car distributor for the same roads and on May 8, 1912, he was appointed superintendent of the American Refrigerator Transit Company (Missouri Pacific refrigerator car operating unit). On October 1, 1915, Mr. Haley was appointed superintendent of car service of the Missouri Pacific, with headquarters at St. Louis, being further advanced to assistant superintendent of transportation in 1920. In 1925 his title was changed to assistant general superintendent of transportation, which position he continued to hold until his death.